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In the global fight against biopiracy, one of the key issues is to prevent the grant and exploitation of patents on traditional knowledge and genetic resources by requiring that patent applicants for inventions involving traditional knowledge and genetic resources disclose the source of those resources and provide evidence that the prior informed consent of the local owners of such resources has been obtained and that benefit-sharing agreements have been entered into with those owners. This Article argues that a legal discussion of biopiracy should analyze the obligation to disclose the use of traditional knowledge and genetic resources in an invention beyond the sanctions that are attached in case of violation of such obligations as previously discussed at the international level.

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Fighting Against Biopiracy: Does the Obligation to Disclose in Patent Applications Truly Help?

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ABSTRACT

In the global fight against biopiracy, one of the key issues is to prevent the grant and exploitation of patents on traditional knowledge and genetic resources by requiring that patent applicants for inventions involving traditional knowledge and genetic resources disclose the source of those resources and provide evidence that the prior informed consent of the local owners of such resources has been obtained and that benefit-sharing agreements have been entered into with those owners.

This Article argues that a legal discussion of biopiracy should analyze the obligation to disclose the use of traditional knowledge and genetic resources in an invention beyond the sanctions that are attached in case of violation of such obligations as previously discussed at the international level. These issues should be addressed in light of the key objectives to be achieved: to ensure the effective sharing of benefits resulting from the use of such resources with the local communities that own them, and to implement appropriate mechanisms for this purpose. In the course of the analysis, this Article adopts an interdisciplinary approach by referring to rules governing the legal protection of tangible and intangible cultural property in order to explore the extent to which they could be used as models for a regime of protection against the misappropriation of traditional knowledge and genetic resources. This approach is inspired by the similarity between biopiracy and the

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misappropriation of cultural property goods, which constitutes a kind of “cultural piracy.” This Article concludes that balanced, flexible, and interdisciplinary solutions are required in order to ensure that the interests of local communities are protected without unduly threatening the interests of their commercial partners.

TABLE OF CONTENTS

I.	INTRODUCTION	145
II.	ORIGINS AND LIMITS OF THE OBLIGATION TO DISCLOSE	152
	A. <i>Origins</i>	152
	B. <i>Limits</i>	155
III.	MOVING FROM TRANSPARENCY TO BENEFIT SHARING..	158
	A. <i>Are There Lessons To Be Learned from the Legal Protection of Tangible Cultural Property?</i>	159
	1. Relevant Aspects of the Legal Protection of Tangible Cultural Property	159
	2. Are There Analogies to the Protection of Traditional Knowledge from Misappropriation?	161
	B. <i>Potential Modalities for Sharing Benefits with the Communities</i>	166
	1. Co-Ownership of Patents.....	167
	2. Compulsory Licensing Scheme for the Use of Traditional Knowledge?	169
	C. <i>Implementation of the Benefit Sharing System</i>	171
	1. Efficient Enforcement and Dispute Resolution System.....	172
	2. Flexible Approach	176
IV.	CONCLUSION	178

I. INTRODUCTION

In the global fight against biopiracy,¹ one of the most important issues—as identified in the report entitled *The Protection of Traditional Knowledge: Draft Objectives and Principles*;² prepared under the auspices of the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore—is to “[p]reclude the grant of improper [intellectual property] rights to unauthorized parties.”³ More specifically, the goal is to

curtail the grant or exercise of improper intellectual property rights over traditional knowledge and associated genetic resources, by requiring, in particular, as a condition for the granting of patent rights, that patent applicants for inventions involving traditional knowledge and associated genetic resources disclose the source and country of origin of those resources, as well as evidence of prior informed consent and benefit-sharing conditions have been complied with in the country of origin.⁴

According to the *Draft Traditional Knowledge Principles*, “[t]raditional knowledge shall be protected against misappropriation.”⁵ To accomplish this,

legal means should be provided to prevent . . . false claims or assertions of ownership or control over traditional knowledge, including acquiring, claiming or asserting intellectual property rights over traditional knowledge-related subject matter when those intellectual property

1. See generally IKECHI MGBEOJI, *GLOBAL BIOPIRACY: PATENTS, PLANTS, AND INDIGENOUS KNOWLEDGE* (2006) (discussing the global biopiracy phenomenon); ANDREW MUSHITA & CAROL B. THOMPSON, *BIOPIRACY OF BIODIVERSITY: GLOBAL EXCHANGE AS ENCLOSURE* (2007) (discussing how biopiracy by powerful corporations and wealthy countries is destroying biodiversity). For practical examples, see JAY MCGOWN, *OUT OF AFRICA: MYSTERIES OF ACCESS AND BENEFIT SHARING* (2006), available at <http://www.edmonds-institute.org/outofafrica.pdf> (explaining a month long study of biopiracy and benefit sharing agreements in Africa); World Trade Organization, *Combating Biopiracy—The Peruvian Experience*, IP/C/W/493 (Sept. 19, 2007) (describing the examples listed in the document filed by Peru with the World Trade Organization).

2. World Intellectual Property Organization, Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore [WIPO Intergovernmental IP Committee], *The Protection of Traditional Knowledge: Draft Objectives and Principles*, WIPO/GRTKF/IC/10/5 (Oct. 2, 2006), available at http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_10/wipo_grtkf_ic_10_5.pdf [hereinafter *Draft TK Principles*].

3. *Id.* annex, at 1.
 4. *Id.* annex, at 4–5, ¶ xiv.
 5. *Id.* annex, at 12, art. 1(1).

rights are not validly held in the light of that traditional knowledge and any conditions relating to its access.⁶

Various countries have formulated proposals advocating the inclusion of such a disclosure obligation in a variety of international patent law conventions.⁷ Others have adopted, or are discussing, national regulations to the same end.⁸ Three different proposals for implementing this obligation at the international level can currently be identified:⁹ (1) the TRIPS Disclosure Proposal;¹⁰ (2) the PCT Disclosure Proposal;¹¹ and (3) the Mandatory Disclosure Proposal.¹²

The most protective of the three is the TRIPS Disclosure Proposal, which was proposed primarily by Brazil and India, with

6. *Id.* annex, at 12, art. 1(3)(iii).

7. Other proposals have been formulated in scientific publications. *See, e.g.*, Nuno Pires de Carvalho, *Requiring Disclosure of the Origin of Genetic Resources and Prior Informed Consent in Patent Applications Without Infringing the TRIPS Agreement: The Problem and the Solution*, 2 WASH. U. J.L. & POL'Y 371, 396–98 (2000) (pleading for an application of the “unclean hands” doctrine); United Nations Conference on Trade and Development (UNCTAD), *Analysis of Options for Implementing Disclosure of Origin Requirements in Intellectual Property Applications*, at 4–5, UNCTAD/DITC/TED/2004/14 (Feb. 15, 2006), available at http://www.unctad.org/en/docs/ditcted200514_en.pdf (discussing various available policy options).

8. *See, e.g.*, Loi fédérale sur les brevets d'invention [LBI], June 22, 2007, FF 4363 (2007), art. 49(a) (Switz.), available at <http://www.admin.ch/ch/ff/ff/2007/4363.pdf> (introduced by the amendments to the Swiss Patent Act which were adopted by the Swiss Parliament on June 22, 2007 and entered into force on July 1, 2008); Charles C. Liu & Jeanne J. Liu, *Waves of Changes in Chinese Patent Law and Regulations—Part IV*, 20 CHINA INTELL. PROP. 44, 44–51 (2007), available at http://www.chinabiotoday.com/articles/20080131_1 (describing the draft changes contemplated in the Chinese patent law on this issue); David Cochrane, *Africa: Patents Act Amended to Protect Genetic Resources*, MANAGING INTELL. PROP., Mar. 2008, available at <http://www.managingip.com/Article/1886062/Patents-Act-amended-to-protect-genetic-resources.html> (describing the situation in South Africa).

9. This tripartite division is based on a note which was drafted by the World Trade Organization [WTO] Secretariat, Council for Trade-Related Aspects of Intellectual Property Rights, *Note by the Secretariat: The Relationship Between the TRIPS Agreement and the Convention on Biological Diversity—Summary of Issues Raised and Points Made*, ¶ 14, IP/C/W/368/Rev.1 (Feb. 8, 2006), available at http://www.wto.org/english/tratop_e/tratop_e/trips_e/ipcw368_e.doc [hereinafter *WTO Summary*]. For the summary of the different approaches, see WTO, *TRIPS: Reviews, Article 27.3(b) and Related Issues—Background and the Current Situation*, http://www.wto.org/english/tratop_e/trips_e/art27_3b_background_e.htm (last visited Dec. 18, 2008). For an updated status of the negotiation process at the WTO as of June 2008, see the report on “GI extension” and biodiversity consultations, General Counsel Trade Negotiations Committee, *Report by the Director-General: Issues Related To the Extension of the Protection of Geographical Indications Provided for in Article 23 of the TRIPS Agreement to Products Other Than Wines and Spirits and Those Related to the Relationship Between the TRIPS Agreement and the Convention on Biological Diversity*, WT/GC/W/591 (June 9, 2008), available at http://www.wto.org/english/tratop_e/trips_e/giextension_cbd_dgreport_9jun08_e.pdf.

10. *See infra* text accompanying notes 13–17.

11. *See infra* text accompanying notes 18–24.

12. *See infra* text accompanying notes 25–29.

assistance from other countries.¹³ Under its terms, a patent can be granted only if the patent application includes information regarding or evidence of (1) the source of the invention, its country of origin, and the countries of origin of the biological resources and traditional knowledge used in the invention; (2) the obtainment of prior informed consent from the authorities under the relevant national regime; and (3) fair and equitable benefit sharing under the relevant national regime.¹⁴ If a patent applicant violates these obligations, the potential sanctions could include the revocation of the patent, the narrowing of the scope of the patent, and the “full or partial transfer of the rights to the invention . . . where full disclosure would have shown that another person or community or governmental agency is the inventor or part inventor.”¹⁵ The TRIPS Disclosure Proposal is meant to be formally implemented in the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement)¹⁶ at Article 29bis.¹⁷

13. Lawrence A. Kogan, *Brazil's IP Opportunism Threatens U.S. Private Property Rights*, 38 U. MIAMI INTER-AM. L. REV. 1, 71–72 (discussing Brazil and India's involvement and leadership in the TRIPS Disclosure Proposal).

14. WTO Summary, *supra* note 9, ¶ 71.

15. *Id.* ¶ 75; see also Council for Trade-Related Aspects of Intellectual Property Rights, *The Relationship Between the TRIPS Agreement and the Convention on Biological Diversity (CBD) and the Protection of Traditional Knowledge—Elements of the Obligation to Disclose Evidence of Benefit-Sharing Under the Relevant National Regime*, IP/C/W/442 (Mar. 18, 2005), available at <http://docsonline.wto.org/DDFDocuments/t/IP/C/W442.doc> [hereinafter *WTO Interpretation of Relationship Between TRIPS and CBD*] (circulating a submission by India, Brazil, and other member countries, to the Council).

Where the failure to provide evidence of benefit-sharing is discovered after the grant of a patent, the legal effect could include:

- Revocation of the patent where it is determined that there is fraudulent intention behind the failure to provide evidence of benefit-sharing. In addition to, or as an alternative to revocation, criminal and/or administrative sanctions may also be imposed, in particular, to ensure adequate compensation where it is eventually determined that no benefits were shared or are intended to be shared;
- Full or partial transfer of the rights to the invention, also as an alternative to revocation, as a means of promoting fair and equitable benefit-sharing).

WTO Interpretation of Relationship Between TRIPS and CBD, supra, ¶ 14.

16. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments—Results of the Uruguay Round, 33 I.L.M. 1125 (1994) [hereinafter *TRIPS Agreement*].

17. Council for Trade-Related Aspects of Intellectual Property Rights, *Doha Work Programme—The Outstanding Implementation Issue on the Relationship between the TRIPS Agreement and the Convention on Biological Diversity*, at 1–2, WT/GC/W/564/Rev.2 (Jul. 5, 2006), available at <http://docsonline.wto.org/DDFDocuments/t/ip/c/w474.doc> (containing the draft of Article 29bis of TRIPS Agreement as proposed by Brazil, China, Columbia, Cuba, India, Pakistan, Peru,

The PCT Disclosure Proposal, authored by Switzerland,¹⁸ is based on a proposed amendment to the Regulations under the Patent Cooperation Treaty (PCT Regulations).¹⁹ Under this amendment, national patent law *could*²⁰ require a patent applicant to declare the source of genetic resources and traditional knowledge in a patent application.²¹ The absence of compliance by the patent applicant with the formal requirement could lead to the denial of the application by the relevant patent office.²² However, if the applicant's failure to

Thailand, and Tanzania). It appears that this approach is gaining momentum and support among members states of the WTO. See Kaitlin Mara & William New, *TRIPS Council: Half of WTO Membership Backs Biodiversity Amendment*, INTELL. PROP. WATCH, Mar. 14, 2008, <http://www.ip-watch.org/weblog/index.php?p=961> (describing the issues and interests discussed at last triennial meeting).

18. WIPO, Working Group on Reform of the Patent Cooperation Treaty [WIPO PCT Working Group], *Proposals by Switzerland Regarding the Declaration of the Source of Genetic Resources and Traditional Knowledge in Patent Applications*, at 1, PCT/R/WG/4/13 (May 5, 2003), available at http://www.wipo.int/edocs/mdocs/pct/en/pct_r_wg_4/pct_r_wg_4_13.pdf; WIPO PCT Working Group, *Proposals by Switzerland Regarding the Declaration of the Source of Genetic Resources and Traditional Knowledge in Patent Applications*, at 1, PCT/R/WG/5/11 Rev. (Nov. 19, 2003), available at http://www.wipo.int/edocs/mdocs/pct/en/pct_r_wg_5/pct_r_wg_5_11_rev.pdf [hereinafter *Switzerland Nov. 2003 Proposal*].

19. Regulations Under the Patent Cooperation Treaty, June 19, 1970, available at http://www.wipo.int/pct/en/texts/pdf/pct_regs.pdf [hereinafter PCT Regulations] (as in force from July 1, 2008).

20. The PCT Disclosure Proposal is optional and is left to the decision of the individual countries. See *Switzerland Nov. 2003 Proposal*, *supra* note 18, annex, at 2 (“[T]he Contracting Parties of the PLT would be able to require in their national patent laws that patent applicants declare the source of genetic resources and/or traditional knowledge in national patent applications.”).

21. *WTO Summary*, *supra* note 9, ¶ 81; see also WIPO PCT Working Group, *Additional Comments by Switzerland on Its Proposals Regarding the Declaration of the Source of Genetic Resources and Traditional Knowledge in Patent Applications*, PCT/R/WG/6/11, at 4 (Apr. 21, 2004), available at http://www.wipo.int/edocs/mdocs/pct/en/pct_r_wg_6/pct_r_wg_6_11.doc [hereinafter *Switzerland Apr. 2004 Comments*]. The new proposed Rule 51bis.1(g) of PCT Regulations, *supra* note 19, would then read as follows:

- (g) The national law applicable by the designated Office may, in accordance with Article 27, require the applicant
 - (i) to declare the source of a specific genetic resource to which the inventor has had access, if an invention is directly based on such a resource; if such source is unknown, this shall be declared accordingly;
 - (ii) to declare the source of knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biological diversity, if the inventor knows that an invention is directly based on such knowledge, innovations and practices; if such source is unknown, this shall be declared accordingly.

Switzerland Apr. 2004 Comments, *supra*, at 4.

22. See Council for Trade-Related Aspects of Intellectual Property Rights, *Additional Comments by Switzerland on Its Proposals Submitted to WIPO Regarding*

disclose the source of the invention or the submission of false information was discovered after the granting of the patent, the patent's validity would only be affected if it was found that the applicant had fraudulent intentions.²³ In such a case, sanctions outside of patent law could also be imposed.²⁴

The third proposal, the Mandatory Disclosure Proposal, was made by the European Union. Pursuant to this proposal, each country *shall* “require all patent applicants to disclose information on the country of origin or source of genetic resources used in the invention which applicants know or have reason to know.”²⁵ Under this proposal, the failure or refusal of the patent applicant to provide the required information would terminate the processing of the patent application.²⁶ However, after the grant of the patent, the sanction imposed on an applicant who provided incorrect or incomplete information would lie outside of patent law.²⁷ Each country would retain the ability to determine the sanctions it would impose in the case of a violation of the disclosure requirement.²⁸ As expressed in a submission of the European Union, this proposal supposes that

[m]eaningful and workable sanctions should be attached to the provision of incorrect or incomplete information. Where it is proved that the patent applicant has disclosed incorrect or incomplete information, effective, proportionate and dissuasive sanctions outside the field of patent law should be imposed on the patent applicant or holder. . . . For reasons of legal certainty, the submission of incorrect or

the Declaration of the Source of Genetic Resources and Traditional Knowledge in Patent Applications, IP/C/W/423 (June 14, 2004) (containing the document submitted by Switzerland to the WTO); *WTO Summary*, *supra* note 9, at 32, ¶ 84.

23. See Patent Law Treaty, art. 10(1), June 1, 2000, 39 I.L.M. 1047 (2000), available at http://www.wipo.int/treaties/en/ip/plt/trtdocs_wo038.html [hereinafter PLT].

Non-compliance with one or more of the formal requirements referred to in Articles 6(1), (2), (4) and (5) and 8(1) to (4) with respect to an application may not be a ground for revocation or invalidation of a patent, either totally or in part, except where the non-compliance with the formal requirement occurred as a result of a fraudulent intention.

Id.

24. *WTO Summary*, *supra* note 9, ¶ 84.

25. *Id.* ¶ 87.

26. *Id.* ¶ 88.

27. *Id.*

28. See Council for Trade-Related Aspects of Intellectual Property Rights, *Communication from the European Communities and Their Member States*, ¶ 55, IP/C/W/383 (Oct. 17, 2002) [hereinafter *EU Proposal*] (“Legal consequences to the non-respect of the requirement should lie outside the ambit of patent law, such as for example in civil law (claim for compensation) or in administrative law (fee for refusal to submit information to the authorities or for submitting wrong information.”); *WTO Summary*, *supra* note 9, ¶ 88.

incomplete information should not have any effect on the validity of the granted patent or on its enforceability against patent infringers.

It must be left to the individual Contracting State to determine the character and the level of these sanctions, in accordance with domestic legal practices and respecting general principles of law.²⁹

Among the three options mentioned above, the TRIPS Disclosure Proposal is obviously the most protective of the interests of local communities due to its extensive reach.³⁰ Indeed, it presupposes the creation of a benefit-sharing agreement between the applicant and the relevant stakeholders. Therefore, if one were to try to answer the question raised in the title of this Article as to whether the obligation to disclose truly helps communities,³¹ one might conclude that the TRIPS Disclosure Proposal would be the most effective because it requires the patent applicant to prove benefit sharing with communities when filing a patent application. However, in spite of its appeal, the TRIPS Disclosure Proposal seems unlikely to be implemented at the global level because of the opposition it faces in political spheres and the delicate legal issues that it raises.³²

On this basis, the goal of this Article is to assess whether the *obligation to disclose* the use of traditional knowledge and of

29. WIPO Intergovernmental IP Committee, *Disclosure of Origin or Source of Genetic Resources and Associated Traditional Knowledge in Patent Applications*, annex, ¶ 6, WIPO/GRTKF/IC/8/11 (May 17, 2005) [hereinafter *Disclosure of Origin or Source of Genetic Resources*] (containing the document submitted by the European Union and its member states).

30. For a definition of the concept of the communities, see *Draft TK Principles*, *supra* note 2, annex, at 24, art. 5.

Protection of traditional knowledge should benefit the communities who generate, preserve and transmit the knowledge in a traditional and intergenerational context, who are associated with it and who identify with it in accordance with Article 4. Protection should accordingly benefit the indigenous and traditional communities themselves that hold traditional knowledge in this manner, as well as recognized individuals within these communities and peoples. Entitlement to the benefits of protection should, as far as possible and appropriate, take account of the customary protocols, understandings, laws and practices of these communities and peoples.

Id.

31. This Article does not address the complex issue of the determination of ownership of traditional knowledge and simply considers that communities should be treated as the owners, even though other stakeholders may be involved (such as the states from which the traditional knowledge originates, as may be inferred from the wording of the Convention on Biological Diversity, *infra* note 39, art. 15).

32. See *WTO Summary*, *supra* note 9, ¶ 118 (presenting a view that it is not “feasible to require, in addition to the declaration of the source of genetic resources, evidence of prior informed consent and benefit sharing”); see also Martin A. Girsberger, *Transparency Measures Under Patent Law Regarding Genetic Resources and Traditional Knowledge: Disclosure of Source and Evidence of Prior Informed Consent and Benefit-Sharing*, 7 J. WORLD INTELL. PROP. 451, 476–77, 485 (2004) (describing the legal and practical problems with informed consent and benefit-sharing).

associated genetic resources (hereinafter jointly referred to as “traditional knowledge”) in an invention truly helps communities that create and own traditional knowledge. For this purpose, the Article focuses on whether the obligation to disclose (resulting in particular from the PCT Disclosure Proposal and the Mandatory Disclosure Proposal), as well as the sanctions attached to a violation, provide a suitable legal framework for allowing effective benefit sharing for communities.

In view of this focus, the Article does not comprehensively discuss the other complex issues relating to the implementation of the obligation to disclose, such as the so-called trigger of the disclosure³³ (i.e., what connection must exist between the traditional knowledge and the invention for which the patent application has been filed in order to trigger the obligation to disclose),³⁴ nor does it discuss the permissibility of the obligation to disclose under international instruments, most specifically with the TRIPS Agreement.³⁵ Instead, it focuses on assessing the effectiveness of the obligation to disclose, which can be viewed as a *defensive* measure³⁶—an “anti-appropriation initiative”³⁷—and does not discuss the creation of a *sui generis* right to be adopted for the purpose of positively protecting traditional knowledge.³⁸

Part II of this Article describes the origins and limits of the obligation to disclose and concludes that the obligation to disclose is not sufficient to protect communities. Part III discusses alternative approaches to the obligation to disclose that may ensure real benefit sharing for communities. In Part III.A, the Article draws an analogy to the legal protection of tangible cultural property in order to explore how that regime could serve as a model for the protection of traditional knowledge. The Article also examines how the goal of

33. WTO Summary, *supra* note 9, ¶ 125.

34. See *id.* (discussing the trigger for disclosure).

35. See Graham Dutfield, *Sharing the Benefits of Biodiversity: Is There a Role for the Patent System?*, 5 J. WORLD INTELL. PROP. 899, 920–22 (2005) (discussing compliance of the obligation to disclose with the TRIPS Agreement); see also Nuno Pires de Carvalho, *From the Shaman’s Hut to the Patent Office: In Search of a TRIPS-Consistent Requirement to Disclose the Origin of Genetic Resources and Prior Informed Consent*, 17 WASH. U. J.L. & POL’Y 111 (2005) (explaining the obligation to disclose the origin of genetic resources and prior informed consent and the ways this requirement may be adopted in accordance with international law).

36. See GRAHAM DUTFIELD, *PROTECTING TRADITIONAL KNOWLEDGE: PATHWAYS TO THE FUTURE* 25 (2006) (discussing the defensive protections against misappropriation of traditional knowledge).

37. See Chidi Oguamanam, *Documentation and Digitization of Traditional Knowledge and Intangible Cultural Heritage*, in *INTANGIBLE CULTURAL HERITAGE AND INTELLECTUAL PROPERTY: COMMUNITIES, CULTURAL DIVERSITY AND SUSTAINABLE DEVELOPMENT*, at 357 (Toshiyuki Kono ed., forthcoming 2009).

38. This issue is also discussed extensively in *Disclosure of Origin or Source of Genetic Resources*, *supra* note 29, ¶ 6.

benefit sharing could be achieved, at the level both of substantive law in Part III.B and of procedural law—i.e., enforcement and dispute resolution—in Part III.C.

II. ORIGINS AND LIMITS OF THE OBLIGATION TO DISCLOSE

A. *Origins*

The debate about the obligation to disclose was initiated as a result of the Convention on Biological Diversity (CBD),³⁹ which concluded on June 5, 1992, in Rio de Janeiro, and which included 190 contracting parties.⁴⁰ The CBD provides for the obligations of access to, benefit sharing of, and prior informed consent with regard to the use of traditional knowledge.⁴¹ Article 8 of the CBD provides that

[e]ach Contracting Party shall, as far as possible and as appropriate:

....

(j) Subject to its national legislation, 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.*⁴²

Article 15(7) of the CBD further provides that

[e]ach Contracting Party shall take legislative, administrative or policy measures, as appropriate, and in accordance with Articles 16 and 19 and, where necessary, through the financial mechanism established by Articles 20 and 21 *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. Such sharing shall be upon mutually agreed terms.⁴³

In implementing these goals, the Conference of the Parties to the CBD (COP) adopted the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of Their Utilization (Bonn Guidelines) at its sixth meeting, which

39. Convention on Biological Diversity, June 5, 1992, 31 I.L.M. 818, *available at* <http://www.biodiv.org/convention/convention.shtml> [hereinafter CBD].

40. For the list of contracting parties with status of adhesion or ratification, see Convention on Biological Diversity, List of Parties, <http://www.cbd.int/convention/parties/list/> (last visited Dec. 19, 2008).

41. CBD, *supra* note 39, arts. 8(j), 10(c), 15, 16, 19.

42. *Id.* art. 8(j) (emphasis added).

43. *Id.* art. 15(7) (emphasis added).

took place in The Hague on April 7–19, 2002.⁴⁴ The Bonn Guidelines, which only provide guidance and can be implemented on a voluntary basis, are intended to “serve as inputs when developing and drafting legislative, administrative or policy measures on access and benefit-sharing with particular reference to provisions under Articles 8(j), 10(c), 15, 16 and 19” of the CBD.⁴⁵

With respect to the issue of benefit sharing, the Bonn Guidelines contain a non-exhaustive list of potential methods of implementation. Appendix II of the Guidelines provides a selection of monetary and non-monetary benefits.⁴⁶

44. Conference of the Parties to the Convention on Biological Diversity, 6th mtg., The Hague, Apr. 7–9, 2002, *Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of Their Utilization*, Decision VI/24/A, UNEP/CBD/COP/6/20, available at <http://www.cbd.int/decisions/?m=cop-06&d=24> [hereinafter *Bonn Guidelines*].

45. *Id.* annex, ¶¶ 1, 7(a).

46. *Id.*, app. II entitled “Monetary and Non-Monetary Benefits,” provides:

1. Monetary benefits may include, but not be limited to:
 - a. Access fees/fee per sample collected or otherwise acquired;
 - b. Up-front payments;
 - c. Milestone payments;
 - d. Payment of royalties;
 - e. Licence 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.
2. Non-monetary benefits may include, but not be limited to:
 - a. Sharing of research and development results;
 - b. Collaboration, cooperation and contribution in scientific research and development programmes, particularly biotechnological research activities, where possible in the provider country;
 - 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 favourable 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 to user developing country Parties and to Parties that are countries with economies in transition and technology development in the country of origin that

At its sixth meeting, the COP added to the framework for the obligation to disclose by inviting

Parties and Governments to encourage the disclosure of the country of origin of genetic resources in applications for intellectual property rights, where the subject matter of the application concerns or makes use of genetic resources in its development, as a possible contribution to tracking compliance with prior informed consent and the mutually agreed terms on which access to those resources was granted.⁴⁷

The COP also invited

Parties and Governments to encourage the disclosure of the origin of relevant traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biological diversity in applications for intellectual property rights, where the subject matter of the application concerns or makes use of such knowledge in its development.⁴⁸

The obligation to disclose in patent applications can thus be conceived as “a possible contribution to tracking compliance with prior informed consent and the mutually agreed terms on which access to those resources was granted.”⁴⁹ According to this interpretation, disclosure essentially aims at creating transparency in

provides genetic resources. Also to facilitate abilities of indigenous and local communities to conserve and sustainably use their genetic resources;

- 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 providing Parties, and where possible, in such Parties;
- 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 provider countries;
- 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.

47. Conference of the Parties to the Convention on Biological Diversity, 6th mtg., The Hague, Apr. 7–9, 2002, *Role of Intellectual Property Rights in the Implementation of Access and Benefit-sharing Arrangements*, ¶ 1, Decision VI/24/C, UNEP/CBD/COP/6/20, available at <http://www.cbd.int/decisions/?m=cop-06&d=24>.

48. *Id.* ¶ 2.

49. *Id.* ¶ 1.

the patent application process.⁵⁰ However, although the obligation to disclose has raised awareness about the CBD and the issue of benefit sharing, experiences from various countries suggest that the goal of transparency has not been fully achieved.⁵¹ It is thus important to address the limits of the obligation to disclose.

B. *Limits*

Even though the obligation to disclose and the sanctions for its violation, both in the PCT Disclosure Proposal and in the Mandatory Disclosure Proposal, could deter potential violators in many circumstances, it appears that in some instances they are insufficient to ensure benefit sharing for communities. This situation essentially results from the fact that, except for in very specific circumstances (i.e., circumstances in which, as envisioned in the PCT Disclosure Proposal, the fraudulent intent of the patent applicant can be established under Article 10 of the *Patent Law Treaty*),⁵² the validity of a patent could not be challenged by communities once it had been granted, even if the patented invention misappropriated traditional knowledge.

In addition, the fact that bad faith patent applicants might incur criminal sanctions may not prove deterrent to the extent that criminal sanctions would be imposed on physical persons and not on corporate entities, as is generally the case in civil law countries.⁵³ Such corporate entities might thus remain unpunished even though they would receive the financial benefits of the grant of a patent based on misappropriated traditional knowledge.⁵⁴

In addition, any criminal or even civil⁵⁵ sanctions generally require a showing of tortious intent (willful or negligent).

50. Transparency is one of the key principles underpinning the *Bonn Guidelines*. *Bonn Guidelines*, *supra* note 44, annex, ¶ 7(h).

51. Alison L. Hoare & Richard G. Tarasofsky, *Asking and Telling: Can "Disclosure of Origin" Requirements in Patent Applications Make a Difference?*, 10 J. WORLD INTELL. PROP. 149, 158 (2007).

52. PLT, *supra* note 23, art. 10(1).

53. In fact, there is substantial debate over how national legislation should respond to non-disclosure. Hoare & Tarasofsky, *supra* note 51, at 154–55. Some countries, such as Norway and Denmark, impose criminal sanctions in cases of where correct information has not been provided. *Id.* at 155. On the other hand, Sweden decided to introduce a voluntary requirement, with no sanctions for non-compliance, because their civil code does not allow criminal prosecution for false declarations on patent applications. *Id.*

54. Criminal sanctions could thus be imposed on outside patent agents who have been hired and instructed by corporate entities (the future owners of the patents), even though sanctions should essentially target these entities themselves and not their patent agents.

55. According to a submission by the European Union, a civil claim for compensation could be considered. *EU Proposal*, *supra* note 28, ¶¶ 54–56.

Consequently, these sanctions would not be applicable in a scenario in which the patent applicant was effectively unaware of pre-existing traditional knowledge, even after having conducted proper due diligence.⁵⁶ In such a case, the applicant, even while acting in good faith, would not have disclosed the presence of any traditional knowledge during the patent application process. Such an applicant could escape criminal or civil sanctions and might also avoid any risk of cancellation of the patent, since there would have been no fraudulent behavior. Perhaps a more realistic scenario is that an entity could acquire a patent or a patent application in good faith from a third party, which may itself have misappropriated traditional knowledge when filing the patent application. In these circumstances too, criminal or civil sanctions might not easily be imposed on such a patent holder if there is no evidence of bad faith.

Furthermore, it is questionable whether the cancellation of a patent, which various proposals envision as a potential sanction, would bring any benefit to communities or allow any benefit sharing. As Norway accurately noted in a submission to the WTO, “[R]evoking a patent as a consequence of non-compliance with the disclosure obligation would not benefit those who consider themselves to be entitled to a share of the benefits of the inventions. Once patent protection is revoked, there are no exclusive rights from which benefits could be derived.”⁵⁷ Quite to the contrary, “the issuing of a patent could trigger benefit sharing.”⁵⁸ As a result, the obligation to disclose should be coupled with additional protective measures in order to meet the goal of benefit sharing,⁵⁹ particularly in view of the fact that such an approach has apparently been adopted with some success in real cases.⁶⁰

56. See *infra* Part III.A.2.

57. Council for Trade-Related Aspects of Intellectual Property Rights, *The Relationship Between the TRIPS Agreement, the Convention on Biological Diversity and the Protection of Traditional Knowledge: Amending the TRIPS Agreement to Introduce an Obligation to Disclose the Origin of Genetic Resources and Traditional Knowledge in Patent Applications*, ¶ 8, IP/C/W/473, (June 14, 2006) (containing the statement of Norway).

58. Morten Walløe Tvedt, *Elements for Legislation in User Countries to Meet the Fair and Equitable Benefit-Sharing Commitment*, 9 J. WORLD INTELL. PROP. 189, 197 (2006).

59. See *id.* at 204 (“This information [about the origin of the genetic material] will not necessarily convert into any distribution of benefits. . . . Therefore, disclosure requirements of any kind must be paired with enforcement mechanisms to be a successful strategy.”).

60. See ANIL K. GUPTA, WIPO-UNEP STUDY ON THE ROLE OF INTELLECTUAL PROPERTY RIGHTS IN THE SHARING OF BENEFITS ARISING FROM THE USE OF BIOLOGICAL RESOURCES AND ASSOCIATED TRADITIONAL KNOWLEDGE 156 (2004), available at http://www.wipo.int/tk/en/publications/769e_unep_tk.pdf.

Without the protection [by patent] sought and obtained in the second and third case studies, the technology would not have been licensed for potential

It is important to emphasize that judicial proceedings for the purpose of obtaining the cancellation of patents issued in spite of the misappropriation of traditional knowledge would be quite burdensome for communities, should they wish to initiate such actions. It is a well-known and unfortunate fact that litigation in general, and patent litigation in particular, is quite costly.⁶¹ As a result, should patents for the same invention be granted in different countries (for example, if filed on the basis of a centralized patent filing system such as the Patent Cooperation Treaty),⁶² separate patent cancellation proceedings would have to be initiated in each of the relevant countries or regional areas, such as the region subject to the Convention on the Grant of European Patents (European Patent Convention).⁶³ Communities would consequently incur quite substantial costs—costs they cannot reasonably be expected to incur in order to litigate against the owners of patents that have been improperly registered in different countries.⁶⁴ From this perspective, the sanction of patent cancellation does not appear an appropriate means of protecting communities.

One might, therefore, conclude that the obligation to disclose and the use of punitive measures, such as criminal sanctions and the cancellation of patents in case of a violation of the obligation to disclose, do not generally offer an efficient guarantee of benefit

commercial exploitation and thus benefits would not have been obtained and shared. To this extent, the use of existing patent laws enabled the generation and sharing of benefits.

Id.

61. More generally, from an economic perspective, the present patent system is considered to unduly favor patent owners over third-party litigants. Indeed, patent owners are likely to incur lesser costs than third parties challenging the validity of a patent. Julio R. Robledo, *Strategic Patents and Asymmetric Litigation Costs as Entry Deterrence Instruments*, ECON. BULL., Jan. 12, 2005, at 2–3, available at <http://www.economicsbulletin.com/2005/volume15/EB-04030005A.pdf>.

62. Patent Cooperation Treaty, art. 4, June 19, 1970, 1160 U.N.T.S. 231.

63. Such proceedings could be initiated if no central opposition has been filed against the European patent, which can be done during a nine month time limit from the publication of the grant of the European patent. See Convention on the Grant of European Patents [European Patent Convention], art. 99, Oct. 5, 1973, 13 I.L.M. 270, available at <http://www.epo.org/patents/law/legal-texts/html/epc/2000/e/ma1.html> (entered into force Dec. 13, 2007 as amended by Act of Nov. 29, 2000); see also EUROPEAN PATENT OFFICE, ASSESSMENT OF THE IMPACT OF THE EUROPEAN PATENT LITIGATION AGREEMENT [EPLA] ON LITIGATION OF EUROPEAN PATENTS 1 (2006), available at [http://documents.epo.org/projects/babylon/eponet.nsf/0/2D620982152DB517C12572A700433C61/\\$File/impact_assessment_2006_02_v1_en.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/2D620982152DB517C12572A700433C61/$File/impact_assessment_2006_02_v1_en.pdf) (discussing the limitations of the purely national system of litigating patents in Europe).

64. See Stephen A. Hansen, *Intellectual Property and Traditional Ecological Knowledge: Institutionally Globalized Biopiracy?*, PROF. ETHICS REP., Summer 2002, at 1, 1–2, available at <http://www.aaas.org/spp/sfrl/per/per30.pdf> (noting that the “prohibitive costs of registering, maintaining and defending patents against infringement” have the end effect of deterring holders of indigenous knowledge from filing patent applications should they have wished to do so).

sharing for communities. In that sense, the obligation to disclose might not be sufficiently protective. As a result, it is appropriate to discuss what “legal means”⁶⁵ should be made available to communities in order “to provide remedies for traditional knowledge holders in cases where the fair and equitable sharing of benefits . . . has not occurred.”⁶⁶

III. MOVING FROM TRANSPARENCY TO BENEFIT SHARING

Based on the analysis in Part II, it appears that, in order to enable communities better to share the benefits derived from the exploitation of their traditional knowledge, it is necessary to move beyond the obligation to disclose, which is essentially intended to ensure the transparency of the patent application process.⁶⁷ From a policy perspective, probably too much attention has been paid to the obligation to disclose and not enough to benefit sharing.⁶⁸ As accurately expressed by Emanuela Arezzo, “[E]ven if such measures [i.e., the obligation to disclose] were adopted and indigenous people were able to discover which patents are based on their misappropriated property, there is little chance of ensuring proper compensation pursuant to CBD’s principles.”⁶⁹

65. This terminology is taken from the *Draft TK Principles*, *supra* note 2, annex, at 12, arts. 1(1), (3), which provides that “[t]raditional knowledge shall be protected against misappropriation,” whereby

legal means should be provided to prevent . . . false claims or assertions of ownership or control over traditional knowledge, including acquiring, claiming or asserting intellectual property rights over traditional knowledge-related subject matter when those intellectual property rights are not validly held in the light of that traditional knowledge and any conditions relating to its access.

Id. (emphasis added).

66. *Id.* annex, art. 6(4).

67. See de Carvalho, *supra* note 7, at 375 (noting that the obligation to disclose provides “a record of inventions that were developed with the use of genetic resources conserved *in situ* and/or traditional or indigenous knowledge”).

68. See Tvedt, *supra* note 58, at 207.

A dangerous strategy for developing countries is to put a too high a stake in the disclosure requirements or in the certificate systems if they are not developed as part of a total package of implementation of enforceable benefit-sharing commitments upon the beneficiaries. The discussions in the WIPO and the CBD indicate that there is too much of a focus on these tools, and too little focus upon other more legally binding mechanisms. Countries must be aware of the limits embedded in these strategies regarding the potential to create any benefit sharing.

Id.

69. Emanuela Arezzo, *Struggling Around the “Natural” Divide: The Protection of Tangible and Intangible Indigenous Property*, 25 CARDOZO ARTS & ENT. L.J. 367, 414 (2007).

It might consequently be desirable to consider a paradigm shift, from a *punitive and defensive* approach based on the threat of patent cancellations and criminal sanctions in the case of a violation of the obligation to disclose to a *positive and proactive* approach aimed at ensuring that communities will truly benefit⁷⁰ from the exploitation of traditional knowledge by third parties.⁷¹ Lessons from the legal protection of tangible cultural property might be instructive in defining potential methods of ensuring benefit sharing. After considering the lessons of tangible cultural property law in Part III.A, the Article will focus on the potential modalities of ensuring benefit sharing at the level of substantive law in Part III.B and procedural law in Part III.C.

A. Are There Lessons To Be Learned from the Legal Protection of Tangible Cultural Property?

The protection of tangible cultural property differs by its very nature from the protection of traditional knowledge. However, it is worth considering whether some legal concepts which have been developed for and applied to the protection of tangible cultural property could be implemented by analogy in a benefit-sharing system for the exploitation of traditional knowledge.⁷² For this purpose, several concepts drawn from the protection of tangible cultural property will be presented in Part III.A.1, and their potential application by analogy will then be assessed in Part III.A.2.

1. Relevant Aspects of the Legal Protection of Tangible Cultural Property

Among the various international conventions protecting tangible cultural property goods, the UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects (UNIDROIT Convention),⁷³ signed in Rome on June 24, 1995, contains some features worth discussing in the context of this Article. The UNIDROIT Convention applies to international claims for the restitution of cultural objects stolen or removed from the territory of a contracting state contrary to

70. These benefits may be both monetary and non-monetary.

71. See Arezzo, *supra* note 69, at 387–89 (showing the insufficiency of defensive mechanisms).

72. For an interdisciplinary approach between cultural property and traditional knowledge (limited, however, to the issue of the definition of traditional knowledge), see Sarah Harding, *Defining Traditional Knowledge—Lessons from Cultural Property*, 11 CARDOZO J. INT'L & COMP. L. 511 (2003).

73. UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects, June 24, 1995, 34 I.L.M. 1322, available at <http://www.unidroit.org/english/conventions/1995culturalproperty/1995culturalproperty-e.htm>.

its cultural heritage protection laws regulating the export of cultural objects.⁷⁴

First, with regard to the restitution of stolen cultural objects, the basic rule of the UNIDROIT Convention is that the possessor of such objects shall return them.⁷⁵ A claim for restitution of a cultural object is subject to time limitations,⁷⁶ which include specific and more favorable rules for cultural objects that are part of a “public collection.”⁷⁷

Pursuant to Article 3(7) of the UNIDROIT Convention, a public collection is defined as

a group of inventoried or otherwise identified cultural objects owned by: (a) a Contracting State; (b) a regional or local authority of a Contracting State; (c) a religious institution in a Contracting State; or (d) an institution that is established for an essentially cultural, educational or scientific purpose in a Contracting State and is recognised in that State as serving the public interest.⁷⁸

In addition, Article 3(8) provides that “a claim for restitution of a sacred or communally important cultural object belonging to and used by a tribal or indigenous community in a Contracting State as part of that community’s traditional or ritual use, shall be subject to the time limitation applicable to public collections.”⁷⁹

The UNIDROIT Convention also protects, to a certain extent, the good faith possessor of a stolen cultural object by providing that

[t]he possessor of a stolen cultural object required to return it shall be entitled, at the time of its restitution, to payment of fair and reasonable compensation provided that the possessor neither knew nor ought reasonably to have known that the object was stolen and can prove that it exercised due diligence when acquiring the object.⁸⁰

With respect to the measures to be taken by the possessor of a stolen cultural object in order to be entitled to such payment by a showing of good faith, Article 4(4) provides that

74. *Id.* art. 1.

75. *Id.* art. 3(1).

76. *See id.* art. 3(3) (“Any claim for restitution shall be brought within a period of three years from the time when the claimant knew the location of the cultural object and the identity of its possessor, and in any case within a period of fifty years from the time of the theft.”).

77. *See id.* art. 3(4).

However, a claim for restitution of a cultural object forming an integral part of an identified monument or archaeological site, or belonging to a public collection, shall not be subject to time limitations other than a period of three years from the time when the claimant knew the location of the cultural object and the identity of its possessor.

Id.

78. *Id.* art. 3(7).

79. *Id.* art. 3(8).

80. *Id.* art. 4(1).

in determining whether the possessor exercised due diligence, regard shall be had to all the circumstances of the acquisition, including the character of the parties, the price paid, whether the possessor consulted any reasonably accessible register of stolen cultural objects, and any other relevant information and documentation which it could reasonably have obtained, and whether the possessor consulted accessible agencies or took any other step that a reasonable person would have taken in the circumstances.⁸¹

Based on this provision, a good faith possessor can be protected if—among other factors to be taken into account—he has consulted “any reasonably accessible register of stolen cultural objects” or “accessible agencies.”⁸² In such cases, the possessor may obtain “fair and reasonable compensation” if required to return the stolen cultural object to its legitimate owner.⁸³

Regarding the return of illegally exported cultural objects, Article 5(3) of the UNIDROIT Convention provides that “the court or other competent authority of the State addressed shall order the return of an illegally exported cultural object if the requesting State establishes that the removal of the object from its territory significantly impairs one or more of the following interests,” which include “the traditional or ritual use of the object by a tribal or indigenous community.”⁸⁴ It further provides for a similar system of compensation of the good faith possessor of the cultural object⁸⁵ and mentions that “[i]nstead of compensation, and in agreement with the requesting State, the possessor required to return the cultural object to that State may decide . . . to retain ownership of the object.”⁸⁶

Finally, with respect to the mechanisms for dispute settlement, Article 8(2) of the UNIDROIT Convention provides that litigating parties may consensually choose a judicial or arbitration forum for solving disputes relating to claims for recovering stolen or illegally exported cultural property: “The parties may agree to submit the dispute to any court or other competent authority or to arbitration.”⁸⁷

2. Are There Analogies to the Protection of Traditional Knowledge from Misappropriation?

After surveying selected aspects of the protection of cultural property goods under the UNIDROIT Convention, the question for this Article is whether any of them may be applied by analogy in order to protect traditional knowledge from misappropriation.

81. *Id.* art. 4(4).

82. *Id.*

83. *Id.* art. 4(1).

84. *Id.* art. 5(3).

85. *Id.* arts. 6(1)–(2).

86. *Id.* arts. 6(3), (3)(a).

87. *Id.* art. 8(2).

The starting point of the analysis is the fact that the misappropriation of traditional knowledge, specifically the unauthorized patenting of inventions which are derived from traditional knowledge, can conceptually be compared to the unauthorized traffic and export of cultural objects, to the extent that the goal of legal protection in both cases is to ensure that legitimate right holders recover control over their misappropriated goods, whether traditional knowledge or cultural property. One might argue that the position of the owner of a patent based on traditional knowledge is more legitimate than that of someone in possession of a stolen or illegally exported cultural property good. Indeed, the grant of a patent presupposes an inventive activity that justifies the grant of the exclusive right, whereas, by contrast, such creativity is lacking in the context of the traffic and export of tangible cultural objects. In any case, certain elements of the UNIDROIT Convention are of interest in the context of the discussion of potential legal remedies for the misappropriation of traditional knowledge in patent applications.

First, the UNIDROIT Convention provides heightened protection for an object that belongs to a public collection or is a “sacred or communally important cultural object belonging to and used by a tribal or indigenous community in a Contracting State as part of that community’s traditional or ritual use.”⁸⁸ The justification for such increased protection converges with the protection of traditional knowledge, which also targets the traditional use of local resources. With respect to the increased level of protection of cultural goods belonging to public collections, this protection derives in particular from the fact that these goods are inventoried or otherwise identified.⁸⁹

From the perspective of traditional knowledge, it could similarly be expected that the level of protection against unauthorized misappropriation should be increased with respect to knowledge for which there exists some publicity.⁹⁰ This raises the issue of the potential role of databases and registries of traditional knowledge. On this subject, Article 11(2) of the Draft TK Principles provides that

[i]n the interests of transparency, certainty and the conservation of traditional knowledge, relevant national authorities may maintain registers or other records of traditional knowledge, where appropriate and subject to relevant policies, laws and procedures, and the needs and aspirations of traditional knowledge holders. Such registers may be associated with specific forms of protection, and should not compromise the status of hitherto undisclosed traditional knowledge or

88. *Id.* arts. 3(4), (7), (8).

89. *Id.* art. 3(7).

90. One aspect of the increased level of protection resulting from the publicity of traditional knowledge is the fact that such disclosed knowledge would belong to the prior art. This would potentially bar the patentability of inventions based on this traditional knowledge for lack of novelty or non-obviousness.

the interests of traditional knowledge holders in relation to undisclosed elements of their knowledge.⁹¹

These databases and registries could thus have an important role to play in preventing the misappropriation of traditional knowledge.⁹² In the same way that an acquirer or possessor of a cultural object under the UNIDROIT Convention is expected to conduct due diligence by consulting relevant registries⁹³ to ensure that a cultural object has not been reported as stolen, a company wishing to file a patent application relating to traditional knowledge should be required to check all available relevant registries and databases. The patent applicant could thereby gain greater assurance that the invention that is the subject of a patent application is not unduly derived from any traditional knowledge. Even though such a requirement may impose a burden on patent applicants and their agents, as well as on patent offices, the use of databases and registries of traditional knowledge offers real benefits.⁹⁴

However, the issue of broad access to databases and registries of traditional knowledge is complex. Excessively broad access runs the risk of facilitating the misappropriation of traditional knowledge rather than protecting against it.⁹⁵ However, the identification of the owner of traditional knowledge, which is necessary to allow benefit sharing, would be made easier with the availability of such databases and registries.⁹⁶

In this respect, the following passage highlights the similarity between databases of lost tangible cultural property and those of traditional knowledge; though the passage is addressed to lost

91. *Draft TK Principles, supra* note 2, annex, at 39, art. 11(2).

92. This is precisely the goal of the remarkable project of the Indian government with the Traditional Knowledge Digital Library, <http://www.tkdlib.res.in/tkdlib/LangDefault/common/Home.asp?GL=Eng> (last visited Dec. 19, 2008).

93. These registries include the databases of the Art Loss Register and of INTERPOL. Art Loss Register, <http://www.artloss.com> (last visited Dec. 19, 2008); INTERPOL, <http://www.interpol.com/Public/WorkOfArt/Default.asp> (last visited Dec. 19, 2008) (providing information on how INTERPOL combats the international stolen art trade).

94. One question relates to the accessibility of these databases to the patent applicants. WIPO Intergovernmental IP Committee, *Practical Mechanisms for the Defensive Protection of Traditional Knowledge and Genetic Resources Within the Patent System*, ¶ 6, WIPO/GRTKF/IC/5/6 (May 14, 2003).

95. Dutfield, *supra* note 35, at 927–28. See generally Thomas J. Krumenacher, Comment, *Protection for Indigenous Peoples and Their Traditional Knowledge: Would a Registry System Reduce the Misappropriation of Traditional Knowledge?*, 8 MARQ. INTEL. PROP. L. REV. 143, 152–55 (2004) (examining current efforts to reduce the misappropriation of traditional knowledge).

96. See Tvedt, *supra* note 58, at 202 (discussing the existence of “credible information” on the provider or origin of the genetic resources).

tangible cultural property, it speaks just as well by analogy to databases of traditional knowledge:

Access is therefore a double-edged sword. The publication of inventories on the Internet makes it very easy for potential thieves to browse and make their shopping lists. It makes insiders of outsiders. On the other hand, the Internet can offer a very good support in the recovery of stolen objects.⁹⁷

In spite of these similarities, databases of traditional knowledge raise additional questions in connection with the issue of traditional knowledge as prior art.⁹⁸ In order to avoid any misuse of databases and registries of traditional knowledge, these databases and registries could be made accessible only to specific national or international entities, which would be bound by a duty of secrecy with respect to the content of the databases, and not directly to potential patent applicants. Patent applicants would then be obliged to consult these “accessible agencies”⁹⁹ as part of their due diligence. Applicants would submit their patent applications to these independent agencies, which would then check whether the applications related to or contained traditional knowledge. They could then inform the patent applicants of the presence or absence of traditional knowledge without disclosing to them the full content of the searched databases or the full results of their searches. Under this approach, patent applicants would not have an opportunity to misappropriate traditional knowledge by accessing privileged data to which the agencies would have privileged access.

Under the UNIDROIT Convention, when a possessor of a stolen cultural object has demonstrated good faith by performing due diligence when acquiring the object, the possessor may be financially compensated in exchange for returning the cultural object.¹⁰⁰ By analogy, a good faith patent applicant, as evidenced by the performance of due diligence by the patent applicant, should receive lesser sanctions if it appears at a later date that his invention was

97. Ton Cremers, *Theft, the Internet and Museum Objects: Threats and Opportunities*, ICOM NEWS, No. 4, 2006, at 4, available at http://palimpsest.stanford.edu/icom/pdf/E_news2006/p4_2006-4.pdf.

98. See UNU-IAS, *THE ROLE OF REGISTERS AND DATABASES IN THE PROTECTION OF TRADITIONAL KNOWLEDGE: A COMPARATIVE ANALYSIS* 38 (2004), available at http://www.ias.unu.edu/binaries/UNUIAS_TKRegistersReport.pdf.

Databases can play an important role in defensive protection of TK. However, existing law and policy regarding sources of prior art is insensitive to the nature of TK, its confidentiality, and the rights and interests of indigenous peoples over its future uses. Requiring that TK be placed in the public domain as a condition for recognising it as prior art is a double-edged sword.

Id.

99. UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects, *supra* note 73, art. 4(4).

100. *Id.* art. 4(1).

based on traditional knowledge. For example, it could be difficult for patent applicants to trace the origins of genetic resources.¹⁰¹ As a result, the patent owner might have legitimate interests to consider when deciding on the modalities of benefit sharing. This is particularly true in the case of owners to whom a patent has been transferred and who, consequently, cannot be blamed for violating the obligation to disclose at the time of filing the patent application. The legitimate interests of such patent owners may deserve some protection should the patent at issue involve a misappropriation of traditional knowledge.¹⁰²

However, the protection of such good faith patent owners by analogy to the good faith possessor of a cultural object should in no way constitute an absolute shield that would prevent the protection of communities against the misappropriation of their traditional knowledge, unless the communities at issue allow the patent holder to keep the benefits from the patent. Such an agreement is analogous to the ability of the possessor of an illegally exported cultural good to retain ownership of the object with the agreement of the state from which the object was illegally exported, under Article 7(3) of the UNIDROIT Convention.¹⁰³ As a result, the fact that a patent owner has legitimate reasons for not having identified the traditional knowledge in the patented invention and, thus, has not disclosed it in the course of the application process would not bar granting communities certain rights¹⁰⁴ as to the patented invention.

Finally, the UNIDROIT Convention also offers to the parties the ability to solve their disputes by recourse to alternative dispute resolution mechanisms, specifically by arbitration. Arbitration as a method of dispute resolution can and should be encouraged with regard to disputes arising from cases of misappropriation of traditional knowledge.¹⁰⁵

Several valuable concepts from the law governing the protection of tangible cultural property could help shape an appropriate system of protection against the misappropriation of traditional knowledge. The next question is how such protection should be implemented in order to ensure true benefit sharing.

101. de Carvalho, *supra* note 35, at 186.

102. This raises the issue of the flexibility of the sanctions to be imposed in a particular case. *See infra* Part III.C.2.

103. UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects, *supra* note 73, art. 6(3).

104. The potential nature and extent of these rights are discussed below. *See infra* Part III.B.

105. *See infra* Part III.C.1.

B. Potential Modalities for Sharing Benefits with the Communities

Various solutions have been discussed at the international level¹⁰⁶ and adopted at the national level¹⁰⁷ in order to promote the sharing of benefits resulting from the use of traditional knowledge. In spite of the differences between these regimes, benefit sharing should in all cases include both monetary and non-monetary¹⁰⁸ elements, as emphasized in the Bonn Guidelines; historically, non-monetary elements have not always been sufficiently taken into account, in spite of efforts to raise awareness about them.¹⁰⁹

Among the potential modalities for benefit sharing, the co-ownership of patents is frequently suggested.¹¹⁰ Consequently, it is

106. See *Bonn Guidelines*, *supra* note 44, annex, ¶¶ 1–61 (establishing international guidelines on access and benefit sharing); see also WIPO Intergovernmental IP Committee, *Draft Guidelines on Access and Benefit Sharing Regarding the Utilisation of Genetic Resources*, annex, at 5, WIPO/GRTKF/IC/1/9 (Apr. 27, 2001), available at http://www.wipo.int/edocs/mdocs/tk/en/wipo_grtkf_ic_1/wipo_grtkf_ic_1_9.pdf [hereinafter *Swiss Draft ABS Guidelines*] (containing the document submitted by the Government of Switzerland).

107. *E.g.*, The Biological Diversity Act, No. 5 of 2002, India Code (2003), ch. 5, § 21, available at http://www.nbaindia.org/act/act_english.htm (requiring equitable benefit sharing); Biological Diversity Rules, 2004, 49 Gen. S. R. & O. 261, R. 20 (India), available at <http://www.nbaindia.org/rules.htm> (implementing, *inter alia*, Section 21 of the Biological Diversity Act, 2002 by setting up the criteria for equitable benefit sharing).

108. See CBD, *supra* note 39, arts. 16(3), 19(1)–(2) (referring to non-monetary benefit sharing in terms of transfer of technology to the countries providing genetic resources).

109. See SARAH LAIRD & RACHEL WYNBERG, SECRETARIAT OF THE CONVENTION ON BIOLOGICAL DIVERSITY, ACCESS AND BENEFIT-SHARING IN PRACTICE: TRENDS IN PARTNERSHIPS ACROSS SECTORS 31 (2008) [hereinafter *ABS IN PRACTICE: TRENDS IN PARTNERSHIPS*], available at <http://www.cbd.int/doc/publications/cbd-ts-38-en.pdf>. The report notes:

For many companies, in particular those in the pharmaceutical industry, a package of monetary and non-monetary benefits associated with bioprospecting is now standard practice. There is concern within industry, however, that the most significant benefits—training, technology transfer, and capacity-building—are de-emphasized in relation to future royalties, which are unlikely to materialize [ref. omitted]. As Frank Petersen of Novartis said (pers. comm., 2007): “Capacity-building opportunities and mechanisms meant to anchor knowledge within the bioprospecting partner group—beyond the expiration date of a cooperation—are clearly at a disadvantage compared to the emphasis on royalties. We have to be aware that in the vast majority of natural products-based drug discovery efforts, no royalties can be generated given the low probability of a market introduction. In our discussions with potential bioprospecting partners, we flexibly balance royalty aspects with training opportunities, know-how or technology transfer, supply of special equipment, and invitations for scientists to work with us in Basel according to the specific needs of the partner institute.”

Id.

110. See Biological Diversity Act, No. 5 of 2002, ch. 5, § 21(2)(a) (listing the “grant of joint ownership of intellectual property rights to the National Biodiversity

necessary to assess the appropriateness of this solution.¹¹¹ In view of the drawbacks of a co-ownership regime as described in Part III.B.1, the question addressed in Part III.B.2 is whether another regime for benefit sharing, potentially based on a compulsory licensing system, should be encouraged.¹¹²

1. Co-Ownership of Patents

The proposal that communities receive co-ownership of the patents using their traditional knowledge has been suggested in the Bonn Guidelines¹¹³ and has also been discussed in the legal literature.¹¹⁴ As a matter of principle, one potential advantage of the co-ownership regime is that it would allow straightforward sharing of both monetary and non-monetary benefits. As co-owners of the relevant patents, communities would be generally entitled to derive financial benefits from this status, as well as potentially nonfinancial, technological benefits, particularly as a result of information exchanges with their co-owners.¹¹⁵

However, one might ask on what principle the communities deserve co-ownership of the patented invention. A claim of co-ownership would only be justified if the co-owner had actively participated in the creation of the patented invention. In a situation in which a patent is derived from preexisting traditional knowledge, it is uncertain that the owner or creator of the underlying traditional knowledge could, in all circumstances, legitimately claim to be the co-inventor of the patented invention.

Irrespective of this issue, the status of co-ownership raises the difficult question of how to define the persons or entities which should be considered as co-owners.¹¹⁶ This key issue, however, is not limited to the specific case of the potential co-ownership of patents, but arises generally in the debate surrounding the protection of traditional

Authority, or where benefit claimers are identified, to such benefit claimers” as the first available option); *WTO Interpretation of Relationship Between TRIPS and CBD*, *supra* note 15, ¶ 14 (“Where the failure to provide evidence of benefit-sharing is discovered after the grant of a patent, the legal effect could include . . . [f]ull or partial transfer of the rights to the invention, also as an alternative to revocation, as a means of promoting fair and equitable benefit-sharing . . .”).

111. See *infra* Part III.B.1.

112. See *infra* Part III.B.2.

113. See *Bonn Guidelines*, *supra* note 44, app. II, ¶¶ 1(j), 2(q) (listing joint ownership in the monetary and nonmonetary benefits lists).

114. Maggie Kohls, *Blackbeard or Albert Schweitzer: Reconciling Biopiracy*, 6 CHI.-KENT J. INTELL. PROP. 108, 122 (2007).

115. This double aspect of the regime of co-ownership may explain why the joint ownership of intellectual property rights is listed in the *Bonn Guidelines* both as a monetary and as a nonmonetary benefit. *Bonn Guidelines*, *supra* note 44, app. II, ¶¶ 1(j), 2(q).

116. Kohls, *supra* note 114, at 123.

knowledge. As a result, uncertainty regarding the definition of the persons or entities to be treated as co-owners should not, in and of itself, block the adoption of a co-ownership model.

Even though co-ownership over a patent is generally understood as giving co-owners the right to share the benefits derived from its commercial exploitation, co-ownership also means sharing the associated costs.¹¹⁷ These costs relate first to the prosecution and maintenance of the patent, but they also cover the potential costs of its judicial enforcement or, more generally, of any patent litigation, including patent cancellation proceedings. As already emphasized,¹¹⁸ these costs can be quite substantial. From this perspective, co-ownership may not be the most favorable system of benefit sharing for communities.

Co-owners of intellectual property rights may be free to allocate the profits and losses between them contractually, so that a community might obtain only profits without having to share the costs of filing, maintaining, and enforcing the patent—costs which would be borne exclusively by its industrial partner. However, it is somewhat unlikely that communities would be in a position to claim co-ownership of patents and obtain only the benefits from such co-ownership without bearing at least a fraction of the relevant costs. In addition, it is uncertain that such contractual agreements would protect communities against third parties that wished to sue all co-owners of the relevant patent in the course of patent infringement or patent cancellation proceedings, particularly as a result of mandatory rules of civil procedure making it compulsory that all co-owners be sued.¹¹⁹

Furthermore, co-ownership of intellectual property rights is frequently difficult to manage, particularly internationally.¹²⁰ The legal rules defining the respective rights and obligations of co-owners may diverge widely at the national level. This means, assuming that a regime of co-ownership were to exist with respect to national

117. See ABS IN PRACTICE: TRENDS IN PARTNERSHIPS, *supra* note 109, at 33.

[T]hose wishing to share in the intellectual property from a successful development must be prepared to make a significant financial investment to share the risk of failure, but such investments are often beyond the reach of many providing institutions. Joint ownership of patents by providers and users is thus complex, rare, and expensive, although examples exist.

Id.

118. See *supra* text accompanying notes 61–64.

119. FED. R. CIV. P. 19(a); see also Roger D. Blair & Thomas F. Cotter, *The Elusive Logic of the Standing Doctrine in Intellectual Property Law*, 74 TUL. L. REV. 1323, 1336–80 (2000) (explaining the Federal Rules of Civil Procedure and the standing doctrine as they apply to intellectual property law).

120. Thierry J. Calame & Jacques de Werra, *Co-titularité des droits de propriété intellectuelle (tout particulièrement des brevets) dans le cadre de projets de recherche et développement conjoints: un piège à éviter?*, ANWALTSREVUE, Aug. 1, 2003, at 10.

patents issued in various countries, that the respective rights and obligations of the co-owners might be different in each of these countries. In some countries, a co-owner might validly use and license the patented invention for use by third-party licensees while keeping the profits thus generated, without having to share them with another co-owner.¹²¹ In other countries, national patent regulations might prevent such actions.¹²² This discrepancy between national patent regimes and the resulting legal uncertainty would obviously be detrimental to the interests of the co-owners, specifically communities.

Even though co-owners might attempt to address some of these issues by way of contractual provisions, such contractual solutions will not solve all issues. This is particularly true with respect to mandatory principles of civil procedure that require that all co-owners be named as parties to litigation.¹²³ It is likely that communities will still risk facing some liabilities as co-owners of patents.

As a result of these features and potential liabilities resulting from co-ownership over patents, the regime based on co-ownership would not effectively reach the goal of benefit sharing for communities.

2. Compulsory Licensing Scheme for the Use of Traditional Knowledge?

As noted above,¹²⁴ communities may not have an interest in obtaining the cancellation of a patent covering an invention that unduly misappropriated traditional knowledge. They might rather have an interest in keeping such patents alive in order to share in the potential benefits that could result from their commercial exploitation. It might be in a community's best interest to prevent the owner of relevant, preexisting traditional knowledge from blocking the exploitation of a potentially valuable patent. On this

121. This is the case under U.S. patent law. See 35 U.S.C. § 262 (2008).

In the absence of any agreement to the contrary, each of the joint owners of a patent may make, use, offer to sell, or sell the patented invention within the United States, or import the patented invention into the United States without the consent of and without accounting to the other owners.

Id.

122. This is, for instance, the case under Swiss patent law. See *Recueil Systématique, Loi fédérale sur les brevets d'invention [LBI] [Federal Law for Patents on Inventions]*, June 25, 1954, R.S. 232.14, art. 34, ¶ 2 (1995) (Switz.) ("Where a patent application or the patent itself is owned by several persons, a license may not be granted without the consent of all co-owners.").

123. FED. R. CIV. P. 19(a).

124. See *supra* text accompanying notes 57–58.

basis, scholars have suggested a compensatory liability regime rather than the recognition of exclusive property rights for communities. Such a regime might indeed “entitle indigenous people to procure compensation from third party exploitation; however, it would not grant them the right to block access to third parties.”¹²⁵

For the purpose of such a scheme, Article 31(l) of the TRIPS Agreement, which defines the status of dependent patents, could be applied by analogy.¹²⁶ With regard to protection from the misappropriation of traditional knowledge, the status of communities is similar to that of owners of a preexisting patent. The latter may have to tolerate the commercial exploitation of a subsequent patent (i.e., the patent unduly incorporating a community’s traditional knowledge), provided that the new patent “involve[s] an important technical advance of considerable economic significance in relation to the invention claimed in the first patent”;¹²⁷ that communities “be paid adequate remuneration in the circumstances of each case, taking into account the economic value of the authorization”;¹²⁸ and that communities are “entitled to a cross-license on reasonable terms to use the invention claimed in the second patent,”¹²⁹ among the other conditions set forth under Article 31.

Such a compulsory license scheme could thus offer an appropriate legal framework under which the validity of a patent incorporating traditional knowledge would not be threatened, thus protecting a patent from cancellation that would not deny benefits to the relevant community. At the same time, the exploitation of such a patent would still be subject to the authorization of a court and to the payment to the community of compensation to be fixed, or at least reviewed, by an independent authority.¹³⁰ Such a proposal could allow the sharing of benefits with communities, both at the financial

125. Arezzo, *supra* note 69, at 391–92 (presenting and discussing the proposal of Jerome H. Reichman and Tracy Lewis on a compensatory liability regime); *see also* Jerome H. Reichman & Tracy Lewis, *Using Liability Rules to Stimulate Local Innovation in Developing Countries: Application to Traditional Knowledge, in INTERNATIONAL PUBLIC GOODS AND TRANSFER OF TECHNOLOGY UNDER A GLOBALIZED INTELLECTUAL PROPERTY REGIME* 337, 354–55 (Keith E. Maskus & Jerome H. Reichman eds., 2005) (discussing compensatory liability rules and their application to traditional knowledge).

126. Arezzo, *supra* note 69, at 391 n.111; *see also* Gustavo Ghidini & Emanuela Arezzo, *Patent and Copyright Paradigms vis-à-vis Derivative Innovation: The Case of Computer Programs*, 36 INT’L REV. OF INTEL. PROP. & COMPETITION L. 159, 162–63 (2005) (proposing a new liability regime for computer programs).

127. TRIPS Agreement, *supra* note 16, art. 31(l)(i).

128. *Id.* art. 31(h).

129. *Id.* art. 31(l)(ii).

130. *See id.* art. 31(j) (“[A]ny decision relating to the remuneration provided in respect of such use shall be subject to judicial review or other independent review by a distinct higher authority in that Member.”).

and technological levels, as a result of the patent owners granting a cross-license.

This approach is quite promising, even though it would require some adaptations in order to address more effectively the issue of the misappropriation of traditional knowledge. This need for adaptation particularly relates to the matter of the triggering event necessary for granting a compulsory license. In the system of dependent patents under Article 31(l)(i) of the TRIPS Agreement, the new patent must “involve an important technical advance of considerable economic significance in relation to the invention claimed in the first patent” in order to receive a compulsory license on the pre-existing patent.¹³¹

How should this requirement be adapted to the case of misappropriation of traditional knowledge? As a matter of principle, it may appear inappropriate to refer to the “considerable economic significance” of the patent as the relevant criterion, given that the economic significance covers only monetary benefit sharing.¹³² This approach would not address non-monetary benefits, the protections of which is essential for potential legal remedies against the misappropriation of traditional knowledge. Similarly, the mere ability to grant financial remuneration and a cross-license to a community, as set forth under Article 31(l) of the TRIPS Agreement, may not sufficiently reflect the broad range of monetary and, more importantly, non-monetary benefits that communities might obtain in the context of a benefit sharing system. This system would consequently need to be further adapted and fine-tuned, but it stands out as a promising approach to encourage benefit sharing.

C. Implementation of the Benefit Sharing System

Communities need more than just rules providing for benefit sharing at the level of substantive law; they also need an effective enforcement system. Thus, in a paragraph entitled “Principle of Effectiveness and Accessibility of Protection,” the Draft TK Principles provide that

[m]easures for protecting traditional knowledge should be effective in achieving the objectives of protection, and should be understandable, affordable, accessible and not burdensome for their intended beneficiaries, taking account of the cultural, social and economic context of traditional knowledge holders. Where measures for the protection of traditional knowledge are adopted, appropriate enforcement mechanisms should be developed permitting effective

131. *Id.* art. 31(1)(i).

132. *Id.*

action against misappropriation of traditional knowledge and supporting the broader principle of prior informed consent.¹³³

A similar concern was also expressed in the context of the CBD, which identified the need to ensure “access to justice.”¹³⁴

The practical implementation of an efficient benefit sharing system requires an effective enforcement and dispute resolution mechanism¹³⁵ as well as a flexible approach in the design of the available remedies.¹³⁶

1. Efficient Enforcement and Dispute Resolution System

It is widely acknowledged that a solution to the problem of the misappropriation of traditional knowledge should be found at the international level, in order to cover the countries from which

133. *Draft TK Principles*, *supra* note 2, annex, at 8 (listing general guiding principles).

134. “Access to justice” was identified in the context of the creation of an international regime on access and benefit-sharing. *See* Conference of the Parties [COP], *COP 8 Decision VIII/4: Access and benefit-sharing*, annex, UNEP/CBD/COP/8/31 (Mar. 20–31, 2006), available at <http://www.cbd.int/decisions/cop-08.shtml?m=COP-08&id=11016&lg=0> (providing, under a specific chapter entitled “Access to justice,” “[m]easures to [facilitate][ensure] access to justice and redress” and “[m]easures to [guarantee and] facilitate access to justice and redress, including administrative and judicial remedies, as well as alternative dispute resolution mechanisms [by providers and users]”). More recently, the COP has decided to appoint an expert group in order to address this issue. *See* COP, *COP 9 Decision IX/12: Access and benefit sharing*, annex II, (May 19–31, 2008), available at <http://www.cbd.int/decisions/?m=COP-09&id=11655&lg=0>. The COP provides that:

A group of technical and legal experts on compliance is established to further examine the issue of compliance in order to assist the Working Group on Access and Benefit sharing. The expert group shall provide legal and, as appropriate, technical advice, including, where appropriate, options and/or scenarios. The expert group will address the following questions:

- (a) What kind of measures are available, or could be developed, in public and private international law to:
 - (i) Facilitate, with particular consideration to fairness and equity, and taking into account cost and effectiveness:
 - a) Access to justice, including alternative dispute resolution;
 - b) Access to courts by foreign plaintiffs;
 - (ii) Support mutual recognition and enforcement of judgments across jurisdictions; and
 - (iii) Provide remedies and sanctions in civil, commercial and criminal matters; in order to ensure compliance with national access and benefit-sharing legislation and requirements, including prior informed consent, and mutually agreed terms.

Id. annex II, sec. A(1)(a).

135. *See infra* Part III.C.1.

136. *See infra* Part III.C.2.

traditional knowledge has been unduly “exported,” as well as importing countries where traditional knowledge has been commercially used and patented.¹³⁷ However, relatively little attention has been paid to the ways in which one might settle disputes arising from cases of misappropriation of traditional knowledge in patent applications.¹³⁸ Various enforcement mechanisms adopted in existing patent law instruments might be applied by analogy to effectuate the efficient enforcement of protection against the misappropriation of traditional knowledge and to ensure access to justice for communities.

Under the European Patent Convention, a claim raised by a third party challenging the entitlement of the patent applicant to the invention may lead to a stay of the patent application proceedings. Rule 14(1) of the Implementing Regulations to the Convention on the Grant of European Patents (EPC Implementing Regulations) states:

If a third party provides evidence that he has instituted proceedings against the applicant seeking a decision within the meaning of Article 61, paragraph 1, the proceedings for grant shall be stayed unless the third party communicates to the European Patent Office in writing his consent to the continuation of such proceedings. Such consent shall be irrevocable. However, proceedings for grant shall not be stayed before the publication of the European patent application.¹³⁹

This system of staying patent application proceedings might also be used in the context of protection against the misappropriation of traditional knowledge. A stay of patent application proceedings would be imposed if a community were to initiate a legal action against the patent applicant in order to try to obtain some benefit sharing on the patent at issue. This system could work to communities’ advantage by putting pressure on patent applicants to find a solution to disputes—given that patent applications would not be processed until they had been solved—without threatening the validity of the patents. If an agreement with the relevant community were reached, the patent could be granted (provided, of course, that the conditions of patentability were met).

In addition, and perhaps more importantly, the efficient enforcement of communities’ rights would require setting up

137. Hoare & Tarasofsky, *supra* note 51, at 159.

138. Some commentators consider the existing international dispute resolution system sufficient for this purpose. Thomas Cottier & Marion Panizzon, *Legal Perspectives on Traditional Knowledge: The Case for Intellectual Property Protection*, 7 J. INT’L ECON. L. 371, 399 (2004); see also Hoare & Tarasofsky, *supra* note 51, at 163 (confirming that it is very difficult to challenge a patent which has been granted in a foreign jurisdiction in violation of the principles of the CBD).

139. Implementing Regulations to the Convention on the Grant of European Patents, R.14(1) (Oct. 5, 1973), available at <http://www.epo.org/patents/law/legal-texts/html/epc/2000/e/ma2.html> (as adopted by Decision of the Administrative Council of the European Patent Organisation of Dec. 7, 2006).

specialized courts or other dispute resolution authorities for the purpose of allowing quick and, ideally, inexpensive resolutions of disputes. The European Patent Convention provides for exclusive fora for litigating the rights of claimants on a disputed European patent. The exclusive jurisdiction of these specialized courts, subject to exceptions defined on the basis of the place of residence or place of business of the parties, involves claims relating to the entitlement to a patent under the Protocol on Jurisdiction and the Recognition of Decisions in Respect of the Right to the Grant of a European Patent (Protocol on Recognition).¹⁴⁰

By analogy, special patent courts could be entrusted with the exclusive task of deciding disputes regarding the misappropriation of traditional knowledge. The exclusive jurisdiction of these courts, which could be instituted at the national level or, preferably, at the international level,¹⁴¹ might avoid the costs and hassles that would otherwise be incurred in initiating separate legal actions in each and every country in which a disputed patent application had been filed or granted. In the absence of specialized courts, this strictly local approach would be necessary because of the principle of territoriality that governs patent law—i.e., that each nation has the sovereign power to make decisions regarding its own national patents.¹⁴²

Another potential approach would be to resolve these cases using arbitration—a well-established method of solving international disputes.¹⁴³ Arbitration is mentioned in Article 27(3)(a) and Part 1 of Annex II of the CBD, as well as in other CBD-related documents.¹⁴⁴

140. EPC, *Protocol on Jurisdiction and the Recognition of Decisions in Respect of the Right to the Grant of a European Patent (Protocol on Recognition)*, § 1, (Oct. 5, 1973), available at <http://www.epo.org/patents/law/legal-texts/html/epc/2000/ema4.html>.

141. See Graeme B. Dinwoodie, *Towards an International Framework for the Protection of Traditional Knowledge* 15 (paper presented at UNCTAD-Commonwealth Secretariat workshop on the *Elements of National Sui Generis Systems for the Preservation, Protection and Promotion of Traditional Knowledge: Innovations and Practices and Options for an International Framework*, Geneva, Switzerland), available at http://works.bepress.com/cgi/viewcontent.cgi?article=1024&context=graeme_dinwoodie (considering that an “international institution could be authorized to make determinations regarding traditional knowledge claims”).

142. See *id.* at 11–12 (referring to the derogation of territoriality as “unsettling” for many countries).

143. See International Centre for Dispute Resolution, <http://www.adr.org/icdr> (last visited Dec. 19, 2008) (noting that the international business community is increasingly using arbitration to resolve disputes and providing information on international arbitration rules).

144. COP, *COP 7 Decision VII/19: Access and benefit-sharing as related to genetic resources (Article 15)*, pt. D, Annex, sec. (d)(xxi), UNEP/CBD/COP/7/21 (Feb. 9–20, 2004), available at <http://www.cbd.int/decisions/cop-07.shtml?m=COP-07&id=7756&lg=0> (mentioning that disputes can be solved by “dispute settlement and/or arbitration,” which constitutes a somewhat unclear formulation, given that arbitration is a method of dispute settlement so that the terms “and/or” which are used in this provision may not reflect the real nature of arbitration).

Furthermore, the use of arbitration has gained significant momentum in intellectual property-related disputes, as confirmed by the expert services and documents provided by the WIPO Arbitration and Mediation Center in this field.¹⁴⁵

However, the use of arbitration as a method of dispute resolution requires an arbitration agreement between the parties, which might not be easy to obtain in all cases. Such an agreement could potentially be reached by obligating all patent applicants, including those having misappropriated traditional knowledge, to submit to the jurisdiction of specific courts in the course of the patent application process. Patent applicants could be obliged at the time of filing to accept that any claim potentially raised by communities against them on the basis of an alleged misappropriation of traditional knowledge should be arbitrated or litigated before a specific court, based on a specific dispute resolution system.

A similar system has been successfully implemented quasi-globally for so-called cybersquatting cases that result from the misappropriation of Internet domain names.¹⁴⁶ Under this system, registrants of domain names are required, in the terms and conditions of the domain name registrars upon registering a domain name, to submit to administrative proceedings that can be initiated against them at a later time by trademark owners attempting to obtain the transfer or cancellation of the disputed domain name under the Uniform Domain Name Dispute Resolution Policy (UDRP)¹⁴⁷ or other similar policies.¹⁴⁸ The implementation by analogy of such a system in the international patent arena could be achieved by imposing a similar obligation on persons and bodies filing international patent applications in the PCT Regulations, or on those filing European patent applications in the EPC Implementing Regulations.

Beyond these relatively formal dispute resolution systems, more flexible and informal dispute resolution-mechanisms, such as mediation, may perhaps constitute the best approach for solving disputes relating to the misappropriation of traditional knowledge.¹⁴⁹

145. See Daniel Gervais, *Traditional Knowledge & Intellectual Property: A TRIPS-Compatible Approach*, 2005 MICH. ST. L. REV. 137, 165 (referencing the fact that WIPO has a dispute resolution mechanism for intellectual property issues).

146. For a discussion about such a potential analogy and limits thereto, see Dinwoodie, *supra* note 141, at 15–16.

147. See Internet Corporation for Assigned Names and Numbers [ICANN], *Uniform Domain Name Dispute Resolution Policy*, ¶ 4 (Oct. 24, 1999), available at <http://www.icann.org/dndr/udrp/policy.htm>.

148. On Internet domain name disputes, see WIPO, *Domain Name Dispute Resolution*, <http://www.wipo.int/amc/en/domains/> (last visited Dec. 19, 2008), for the dedicated website of the WIPO Arbitration and Mediation Center.

149. See J. Christian Wichard & Wend B. Wendland, *Mediation as an Option for Resolving Disputes Between Indigenous/Traditional Communities and Industry*

Indeed, the Swiss Draft ABS Guidelines recommended mediation for negotiating fair and equitable benefit sharing agreements regarding the use of traditional knowledge,¹⁵⁰ as did the CBD for resolving disputes between contracting parties to the CBD.¹⁵¹

Finally, it is also essential that any dispute-settlement mechanisms not only address the disputes between communities and patent applicants or patent owners but also cover potential disputes between communities themselves, in cases where they shall raise competing claims on the same traditional knowledge.¹⁵² For the sake of efficiency, all disputes relating to an alleged case of misappropriation of traditional knowledge in a patent application process should ideally be solved in one forum, in one proceeding.

2. Flexible Approach

In view of the widely diverging interests of stakeholders, specifically the victims of misappropriation of traditional knowledge, it would be counterproductive to establish rigid methods and

Concerning Traditional Knowledge, in ART AND CULTURAL HERITAGE: LAW, POLICY AND PRACTICE 475, 475 (Barbara T. Hoffman ed., 2006) (exploring the use of mediation as a method of resolving disputes over traditional knowledge).

150. See *Swiss Draft ABS Guidelines*, *supra* note 106, which provides that:

15.1. The stakeholders involved in a transaction of genetic resources are encouraged to seek support by a mediator when negotiating the mutually agreed terms as referred to in Articles 7 and 8 [which respectively regulate the responsibilities during the process of scientific research and development and regarding the findings of scientific research and development and the transfer of technology] of the Guidelines.

15.2. The mediator shall facilitate the negotiations of mutually agreed terms between the stakeholders involved in a transaction of genetic resources with the aim of obtaining a balanced outcome for such stakeholders.

Id. art 15.

The “mediator” is defined as “any entity which is independent from stakeholders and acts as trustworthy facilitator in the negotiations of the mutually agreed terms of a transaction of genetic resources.” *Id.* art. 2.1. However, the *Swiss Draft ABS Guidelines* do not specify how the mediator shall be appointed or how the mediation proceedings shall be organized, which is not optimal and could be solved by referring to existing mediation rules, such as the WIPO mediation rules. WIPO ARBITRATION AND MEDIATION CENTER, WIPO ARBITRATION AND MEDIATION RULES (2008), available at <http://www.wipo.int/amc/en/mediation/rules>.

151. See CBD, *supra* note 39.

(1) In the event of a dispute between Contracting Parties concerning the interpretation or application of this Convention, the parties concerned shall seek solution by negotiation.

(2) If the parties concerned cannot reach agreement by negotiation, they may jointly seek the good offices of, or request mediation by, a third party.

Id. arts. 27(1)–(2).

152. Gervais, *supra* note 145, at 165.

sanctions for solving all resulting legal issues. This recommends the policy, discussed above in Part III.C.1, of adopting flexible dispute resolution systems, such as mediation.¹⁵³

In other words, there is not and cannot be a single solution. Any and all acts of misappropriation of traditional knowledge should not *automatically* lead to the same sanction. To the contrary, a balanced and flexible approach is required in order to better reflect the specific interests of the relevant stakeholders.¹⁵⁴ This flexibility is essential in view of the fact that victims of misappropriation of traditional knowledge have different views on the potential methods to cure or solve the violation of their interests.¹⁵⁵ While some consider that their resources are sacred and should remain secret, so that no patents should be granted at all,¹⁵⁶ others believe that indigenous communities should obtain equitable benefit sharing in the profits generated from the exploitation of their resources resulting from a patent.¹⁵⁷

The Bonn Guidelines expressly mention this flexibility in Paragraph 49: “Mechanisms for benefit-sharing may vary depending upon the type of benefits, the specific conditions in the country and the stakeholders involved. The benefit-sharing mechanism should be *flexible* as it should be determined by the partners involved in benefit-sharing and will vary on a case-by-case basis.”¹⁵⁸ This flexibility is also reflected in the Swiss Draft ABS Guidelines.¹⁵⁹

153. See *supra* text accompanying notes 149–51.

154. See Christoph Beat Graber & Martin A. Girsberger, *Traditional Knowledge at the International Level: Current Approaches and Proposals for a Bigger Picture that Includes Cultural Diversity*, in RECHT DES LÄNDLICHEN RAUMS: FESTGABE FÜR PAUL RICHLI ZUM 60 GEBURTSTAG 243, 265–66 (Jörg Schmid & Hansjörg Seiler eds., 2006) (acknowledging that there cannot be a “one size fits all” solution); see also ABS IN PRACTICE: TRENDS IN PARTNERSHIPS, *supra* note 109, at 130 (listing among the recommendations for providers of genetic resources and of traditional knowledge to “[a]void a ‘one-size fits all’ approach to ABS measures, taking into account the diversity in user industries, including differences in research and development, the value of genetic resources to industry R&D, the types of commercial products that result, and the profitability of products”).

155. Kohls, *supra* note 114, at 110.

156. See *id.* (referring to this group as the “romantic bio-opponents”).

157. *Id.*; see also Christine Haight Farley, *Protecting Folklore and Indigenous Peoples: Is Intellectual Property the Answer?*, 30 CONN. L. REV. 1, 14–15 (1997) (noting the potential differences of views of local communities).

158. *Bonn Guidelines*, *supra* note 44, ¶ 49 (emphasis added).

159. See *Swiss Draft ABS Guidelines*, *supra* note 106.

When determining the mode for the sharing of benefits arising from the commercialisation and other utilisation of genetic resources, the short, medium and long term interests of all stakeholders involved shall be considered. Furthermore, some modes of benefit sharing may become effective immediately, whereas others become effective only in the distant future due to the period of time needed for the benefits to arise. Additionally, benefit sharing can be awarded not only in monetary, but also in non-monetary forms. Finally,

IV. CONCLUSION

The goal of this Article has been to discuss whether the obligation to disclose effectively protects communities. As was noted, this obligation may not be sufficient, as it merely creates transparency in the patent application process but does not directly ensure benefit sharing for communities. Therefore, additional protective measures must be implemented in order to turn benefit sharing into reality. For this purpose, different legal approaches may be considered, including approaches derived from other legal fields, such as the law of tangible cultural property. In addition to substantive legal measures, the practical enforcement of the claims of communities must not be ignored. To this end, issues of access to justice and efficient dispute resolution methods deserve attention. Without enforcement mechanisms, communities cannot avail themselves of substantive protections against the misappropriation of their traditional knowledge.

However, the misappropriation of traditional knowledge is not limited to cases of its unauthorized use in inventions for which patent protection has been sought. Unauthorized use of traditional

when determining the mode of benefit sharing, the involved stakeholders are encouraged to consider the suitability of any existing institution, mechanism or facility.

Possible elements for the mutually agreed terms regarding the sharing of benefits arising from the commercialisation and other utilisation of genetic resources, as referred to in Article 8.2 of the Guidelines, include, *inter alia*:

- Transfer of knowledge and technology, in particular knowledge and technology that make use of genetic resources, including biotechnology, or that are relevant to the conservation and sustainable utilisation of biological diversity.
- Collaboration in education and training;
- Collaboration in scientific research and development programs;
- Participation in product development;
- Joint ventures;
- Admittance to *ex situ* facilities of genetic resources and to databases;
- Joint ownership of patents and other relevant forms of intellectual property rights;
- Providing means for a fund at the local, national, regional or multilateral level;
- Fee per sample collected or otherwise acquired;
- Licence fee in case of commercialisation;
- Royalties;
- Trust Funds.

Id. annex C.

knowledge also occurs in cases that do not lead to the filing of patent applications.¹⁶⁰ Therefore, a solution anchored solely in patent law would not solve all potential disputes over misappropriation of traditional knowledge. Any global solution will consequently require an interdisciplinary approach combining different legal¹⁶¹—including intellectual property,¹⁶² unfair competition, biodiversity, and, potentially, tangible¹⁶³ and intangible cultural property laws—and non-legal fields.¹⁶⁴ Such an interdisciplinary approach should create mutually beneficial interactions between the respective fields, as well as between people and institutions involved, both national and international. This sharing of ideas could pave the way for the implementation of an effective benefit sharing system for use of traditional knowledge, thereby ensuring the protection of communities without overly burdening other stakeholders.¹⁶⁵

160. Arezzo, *supra* note 69, at 389.

161. See *Draft TK Principles*, *supra* note 2, annex, at 16, art. 2(1).

The protection of traditional knowledge against misappropriation may be implemented through a range of legal measures, including: a special law on traditional knowledge; laws on intellectual property, including laws governing unfair competition and unjust enrichment; the law of contracts; the law of civil liability, including torts and liability for compensation; criminal law; laws concerning the interests of indigenous peoples; fisheries laws and environmental laws; regimes governing access and benefit-sharing; or any other law or any combination of those laws.

Id.

162. The interaction between the protection of traditional knowledge and the protection of intellectual property rights is already a complex issue itself. See generally CHIDI OGUAMANAM, *INTERNATIONAL LAW AND INDIGENOUS KNOWLEDGE: INTELLECTUAL PROPERTY, PLANT BIODIVERSITY, AND TRADITIONAL MEDICINE* 1–34 (2006); INDIGENOUS HERITAGE AND INTELLECTUAL PROPERTY: GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND FOLKLORE (Silke von Lewinski ed., 2d. ed. 2008); Coenraad J. Visser, *Making Intellectual Property Laws Work for Traditional Knowledge*, in POOR PEOPLE'S KNOWLEDGE: PROMOTING INTELLECTUAL PROPERTY IN DEVELOPING COUNTRIES 207 (J. Michael Finger & Philip Schuler eds., 2004), available at http://www.worldbank.org/research/Poor_Peoples_Knowledge.pdf (analyzing intellectual property rights and traditional knowledge).

163. This Article tentatively adopted this approach with respect to the potential analogies between regulations protecting cultural property and those governing traditional knowledge. See *supra* Part III.A. The protection of traditional knowledge is considered a part of cultural heritage. See ART AND CULTURAL HERITAGE: LAW, POLICY AND PRACTICE, *supra* note 147, at 325 (devoting Part 7 to a discussion of traditional knowledge).

164. One example is anthropology. See Shane Greene, *Indigenous People Incorporated?: Culture as Politics, Culture as Property in Pharmaceutical Bioprospecting*, 45 CURRENT ANTHROPOLOGY 211, 211–24 (2004) (examining various indigenous methods used in contemporaneous pharmaceutical bioprospecting through field data and comparative analysis).

165. See Hoare & Tarasofsky, *supra* note 51, at 164–65 (noting in their conclusion that a balanced system of obligation to disclose should be adopted in order to prevent the appropriation of genetic resources without deterring research and development activities based on such resources).