Combating Biopiracy: Harmonizing the Convention on Biodiversity (CBD) and the WTO Treaty on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in Relation to the Protection of Indigenous Traditional Knowledge and Genetic Resources

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I. BIOPIRACY AND ITS RELATION TO INTERNATIONAL CONVENTIONS

A. Background of the Study

Biotechnology and pharmaceutical companies have played a significant role in the development of modern medicine. However, certain diseases such as cancer, diabetes, heart disease, and Human Immunodeficiency Virus (HIV) continue to kill millions every year. This explains why, after focusing on man-made compounds in the 1990s, companies turned to an alternative solution — that of natural remedies, which indigenous communities have been using for centuries. These companies now invest millions in bio-prospecting,[1] a term synonymous with "gene hunting," which refers to the search for biological resources for pharmaceutical or agricultural use.[2] Because medicinal plants constitute the primary form of health care for approximately 80% of the world, these resources and knowledge are highly valuable not only to pharmaceutical developers, but also to cosmetic companies and other corporate and academic interests.[3]

In the past, unimproved genetic and biochemical resources were considered freely accessible by anyone. Efforts to control ownership were resisted in order to protect these resources. For instance, Brazil made attempts to prevent the export of its rubber tree seeds, but just 20 years after the first rubber trees were established in Malaysia, the Brazilian rubber

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1. Javier Garcia, *Fighting Biopiracy: The Legislative Protection of Traditional Knowledge*, 18 BERKELEY LA RAZA L.J. 5 (2007).
2. Valentina Tejera, *Tripping Over Property Rights: Is it Possible to Reconcile the Convention on Biological Diversity with Article 27 of TRIPS?*, 33 NEW ENG. L. REV. 967 (1999).
3. Laura Firestone, *You Say Yes, I Say No; Defining Community Prior Informed Consent Under the Convention on Biological Diversity*, 16 GEO. INT'L. ENVT'L. L. REV. 171 (2003).

industry that had once commanded 98% of the world supply was exporting virtually nothing, while Singapore became the rubber capital of the world.[4]

In 1873, a new type of ownership was extended to certain genetic resources: the patent.[5] Louis Pasteur was granted a patent in the United States (U.S.) for a yeast culture, which gave him limited monopoly over such culture in recognition of his intellectual contribution to the creation of the product.[6] Since 1930, intellectual property rights for genetic and biochemical resources began to expand rapidly.[7] The U.S. passed the Plant Patent Act,[8] which allowed the patenting of asexually reproduced plants such as roses, other ornaments and fruit trees.[9] European countries established Plant Breeders Rights (PBR) protecting sexually reproduced plants, while the U.S. passed a similar law called the Plant Variety Protection Act.[10]

The patentability of biotechnology took off after the 1980 U.S. Supreme Court's landmark decision in *Diamond v. Chakrabarty*.[11] The court therein ruled that a genetically altered bacterium could be granted a utility patent under standard patent law.[12] It has been noted that "[b]y acknowledging that statutorily patentable subject matter included 'anything under the sun that is made by man,' the court encompassed both foreseeable and unforeseeable subject matter."[13] That same year, Congress passed the Bayh-Dole Act[14] to encourage innovation by allowing universities and private firms to claim

4. WALTER V. REID, ET AL., BIODIVERSITY PROSPECTING: USING GENETIC RESOURCES FOR SUSTAINABLE DEVELOPMENT (1993), *available at* http://www.nzdl.org/gsdlmod?e=d-00000-00---off-0envl--00-0----0-10-0---0---0direct-10---4-------0-1l--11-en-50---20-help---00-0-1-00-0-0-11-1-0utfZz-8-00-0-0-11-10-0utfZz-8-00&a=d&c=envl&cl=CL1.1&d=HASH01560fb425117c8a29088ce.4.4.2 (last accessed May 28, 2012).

5. *Id.*

6. *Id.*

7. *Id.*

8. Plant Patent Act of 1930, 35 U.S.C. § 161 (2011).

9. REID, *supra* note 4.

10. *Id. See* Plant Variety Protection Act of 1970 (PVPA), 7 U.S.C. §§ 2321-2582 (2006).

11. *See* Diamond Commissioner of Patents and Trademarks v. Chakrabarty, 447 U.S. 303 (1980).

12. REID, *supra* note 4.

13. Jonathan Curci, *The New Challenges to the International Patentability of Biotechnology: Legal Relations Between the WTO Treaty on Trade-Related Aspects of Intellectual Property Rights and the Convention on Biological Diversity*, 2 INT'L. L. & MGMT. REV. 1, 1 (2005).

14. Bayh-Dole Act, Pub. L. 96-517, 37 C.F.R. 401 (codified at 35 U.S.C. §§ 200-212 (1980)).

property rights on government-funded research.[15] These judicial and legislative changes "transformed the U.S. domestic playing field with regard to property rights in genetic resources."[16]

Consequently, "an 'imitation effect' rippled from the [U.S.] to Europe and other jurisdictions, generating a series of legislative measures to patent living forms."[17] For instance, in *Moore v. Regents of the University of California*,[18] decided in 1984, the court granted a patent applied for by a doctor who took cancerous cells from a leukemia patient. The doctor received royalties and the patient argued that he was entitled to a share in such.[19] However, the court ruled in favor of the doctor on that issue, saying that the patient had no property rights to his discarded cells or any profits made from them.[20]

In 1985, "the U.S. Patent and Trademark office ruled that a corn plant containing an increased level of particular amino acid could also receive a utility patent."[21] In 1988, the first animal was patented — a mouse carrying a human cancer gene used in medical research.[22] The practice of patenting has led to the issue of *biopiracy*, a term coined in 1993 by Pat Mooney, president of the Rural Advancement Foundation International (RAFI, now the ETC Group), which specifically refers to "the use of intellectual property systems to legitimize the exclusive ownership and control of biological resources and knowledge, without recognition, compensation or protection for contributions from indigenous and rural communities."[23]

Biopiracy is considered "the illegal appropriation of life — micro-organisms, plants, and animals (including humans) — and the traditional cultural knowledge that accompanies it."[24] It is said that "[t]he appropriation

15. *Id.* at 41.

16. Kal Raustiala & David G. Victor, *The Regime Complex for Plant Genetic Resources*, *in* INTERNATIONAL ORGANIZATION 287 (2004).

17. *Id.* at 1.

18. Moore v. Regents of the University of California, 51 Cal. 3d 120, 271 Cal. Rptr. 146, 793 P.2d 479 (1990).

19. *Id.*

20. *Id.*

21. Sarah Laird, *Contracts for Biodiversity Prospecting*, *in* Biodiversity Prospecting: Using Genetic Resources for Sustainable Development 152 (1993).

22. REID, *supra* note 4.

23. Gian Carlo Delgado, *Biopiracy and Intellectual Property as the Basis for Biotechnological Development: The Case of Mexico*, 16 IJPCS 297, 299 (Winter, 2002).

24. Marcia Ellen DeGeer, *Biopiracy: The Appropriation of Indigenous Peoples' Cultural Knowledge*, 9 NEW ENG. J. INT'L. & COMP. L. 179, 179 (2003).

is illegal because it is done in violation of international conventions and, where they exist, domestic laws."[25] In other words, biopiracy is the theft of traditional knowledge and genetic resources without just compensation.

To better understand biopiracy, it is also necessary to define "traditional knowledge" and "genetic resources." Traditional knowledge is

> the information that people in a given community, based on experience and adaptation to a local culture and environment, have developed over time, and continue to develop. This knowledge is used to sustain the community and its culture and to maintain the genetic resources necessary for the continued survival of the community.[26]

This includes

> mental inventories of local biological resources, animal breeds, and local plant, crop[,] and tree species. It may include such information as trees and plants that grow well together, and indicator plants, such as plants that show the soil salinity or that are known to flower at the beginning of the rains.[27]

It can also cover "practices and technologies, such as seed treatment and storage methods and tools used for planting and harvesting."[28] The term "traditional" used in describing this knowledge does not imply that it is old or not technical in nature, but "tradition-based."[29] It is "traditional" because it is created in a manner that reflects the traditions of the communities.[30] This means that "tradition" does not relate to the nature of the knowledge itself, but the manner by which knowledge is created, preserved, and disseminated.[31] Moreover, traditional knowledge, being collective in nature, is often considered the property of the entire community, and is transmitted through specific cultural and traditional information exchange mechanisms.[32]

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25. *Id.* (citing The Neem Tree Patent: International Conflict over the Commodification of Life, 22 B.C. INT'L & COMP. L. REV. 279, 280 (1999)).

26. STEPHEN A. HANSEN & JUSTIN W. VANFLEET, TRADITIONAL KNOWLEDGE AND INTELLECTUAL PROPERTY: A HANDBOOK ON ISSUES AND OPTIONS FOR TRADITIONAL KNOWLEDGE HOLDERS IN PROTECTING THEIR INTELLECTUAL PROPERTY AND MAINTAINING BIOLOGICAL DIVERSITY 3 (2003). *See also* World Intellectual Property Organization (WIPO) definition of traditional knowledge, *available at* http://www.wipo.int/tk/en/tk/ffm/report/final/pdf/part1.pdf (last accessed May 28, 2012).

27. HANSEN, *supra* note 26, at 3.

28. *Id.*

29. *Id.*

30. *Id.*

31. *Id.*

32. *Id.*

One example of this is oral transmission through elders or specialists, such as breeders, healers, etc., in a community.[33]

"Genetic resources," on the other hand, are defined under the Convention on Biodiversity[34] as "genetic material of actual or potential value." "Genetic material" refers to "any material of plant, animal, microbial or other origin containing functional units of heredity."[35] In one of its sessions in 2001, the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge, and Folklore observed that

> [g]enetic resources have a double nature: they are physical material and the carriers of hereditary information, which is capable of self-replication. This double nature gives rise to a conceptual tension between physical property in these germplasms (a group of genetic resources) on the one hand and intellectual property rights in intangible elements of these resources, which constitute inventions, trade secrets or new plant varieties on the other.[36]

Because of the increasing utilization of genetic resources and their increasing actual or potential value, tensions have arisen between the provider countries of genetic resources who assert sovereign control over them, and users who claim intellectual property rights over improved genetic resources.[37] More on this tension will later be discussed in this Note.

The argument on biopiracy has resulted in two different sides — the global south (developing countries), being home to most of Earth's threatened and endangered species; and the global north (developed countries), which hold the capital and technology needed to develop this natural wealth.[38] The south argues that intellectual property laws enable pharmaceutical companies and seed breeders in the industrialized north to commit biopiracy.[39] They seek compensation for their contribution to the natural and cultural foundations for modern biotechnology.[40] On the other

33. HANSEN, *supra* note 26, at 3.

34. Convention on Biological Diversity (CBD), June 5, 1992, 1760 U.N.T.S. 79 [hereinafter CBD].

35. *Id.* art. 2.

36. Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, Geneva, Apr. 30 - May 3, 2001, *Matters Concerning Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore — An Overview*, ¶ 33.

37. *Id.*

38. Jim Chen, Biodiversity and Biotechnology: A Misunderstood Relation, 2005 MICH. ST. L. REV. 51, 51(2005).

39. *Id.*

40. *Id.* at 69.

hand, the north wishes to protect the value added by its life scientists.[41] For instance,

> in 1995, the estimated worldwide market value of pharmaceutical derivatives from indigenous peoples' traditional medicine was $43 billion, nearly 13% of the total worldwide pharmaceutical market. Developing that worldwide pharmaceutical market is not cheap or fast. Recent research by Joseph A. DiMasi of the Tufts Center for the Study of Drug Development, a research group associated with Tufts University, put the cost of developing a new drug at $802 million. The U.S. Food and Drug Administration [FDA] says nine of ten experimental drugs fail in clinical testing that can cost millions of dollars.
>
> A pharmaceutical company might compare its eight and a half years of research and $802 million dollar investment to a tribesman's act of pointing out the tree bark that his tribe usually uses to speed wound healing, and understandably ask, 'Who took the risk? Who deserves the reward?'[42]

Moreover, "the chances of finding an exotic plant with true medicinal properties are from one in 10,000 to one in 50,000."[43] Thus, because of these high costs for research and development, and the risk that they take, the north finds justification in patenting traditional knowledge and genetic resources. They argue that "no conflict necessarily exists between the goal of giving a share of the profits to the traditional knowledge holders and the goal of better access to medicine for the whole world."[44] In fact, Jim Chen, the Associate Dean of the University of Minnesota Law School argues that "spreading knowledge of an organism's usefulness is 'locally objectionable but globally beneficial.'"[45]

1. Legal Effect of Biopiracy

A corporation or person who is branded a "biopirate" or is associated with biopiracy will suffer from a bad reputation, which may consequently result in weak patents, equitable claims for profit-sharing, loss of sources of supply, consumer and government boycotts, barriers to importation of biotechnology products, and other financial penalties.[46] In some places,

41. *Id.*

42. Maggie Kohls, *Blackbeard or Albert Schweitzer: Reconciling Biopiracy*, 6 CHI.-KENT J. INTELL. PROP. 108, 111-12 (2007).

43. *Id.* at 112 (citing Lynn McClelland, Bioprospecting: Market Based Solutions to Biopiracy, 2004 UCLA J.L. & TECH NOTES 8, at 1 (2004)).

44. *Id.*

45. Chen, *supra* note 38, at 78.

46. Michael A. Gollin, Biopiracy: The Legal Perspective, *available at* http://www.actionbioscience.org/biodiversity/gollin.html (last accessed May 28, 2012).

biopiracy may be considered as a crime and may result in jail time.[47] In fact, "[i]t is not uncommon for hunters to be jailed for poaching or trespassing."[48]

For instance,

> clean title to biological material now means that it was obtained legitimately, and with prior informed consent from whoever had initial control over it. If there is no clean title, the value of the material is seriously reduced. The collector of an illegitimate sample will not be able to pass it on, in turn, to collaborators, partners, or third parties in the normal course of conduct for researchers. Absent assurances that the material was collected in compliance with all applicable laws and regulations including benefit sharing, a savvy recipient of biological material will not accept material. Moreover, if the supplier certifies that a sample was properly obtained, and it was not, then the recipient could assert a contractual claim for damages back against the collector.[49]

Apart from this, if the patent has already been granted but the grantee has failed to provide evidence of benefit-sharing, the patent may be revoked on the ground of fraud.[50] Criminal and administrative sanctions may also be imposed to ensure adequate compensation where it is eventually determined that no benefits were shared or are intended to be shared.[51] Another effect is full or partial transfer of the rights to the invention as an alternative to revocation in order to promote fair and equitable benefit-sharing.[52]

2. Biopiracy versus Bio-prospecting

It must be noted that there is a difference between biopiracy and bio-prospecting. The fact that a company is engaged in bio-prospecting does not automatically mean that it is a biopirate. Other commentators refer to bio-prospecting as "the search for new sources of chemical compounds, genes, proteins, enzymes, and microorganisms for pharmaceutical use and for other biological resources of potential economic value. ... [It] includes the search for knowledge about the properties and use of these biological and genetic

47. *Id.*

48. *Id.*

49. *Id.*

50. Council for Trade-Related Aspects of Intellectual Property Rights, The Relationship Between the TRIPS Agreement and the Convention on Biodiversity and the Protection of Traditional Knowledge — Elements of the Obligation to Disclose Evidence of Benefit-Sharing Under the Relevant National Regime, ¶ 14, IP/C/W/442 (March 18, 2005).

51. *Id.*

52. *Id.*

materials."[53] On the other hand, if these resources and genetic material are appropriated without obtaining prior informed consent (PIC) or awarding just compensation, then such becomes biopiracy.[54] Nonetheless, while bio-prospecting is not inherently contrary to the interests of indigenous peoples or a threat to biodiversity, some have claimed that it facilitates biopiracy.[55] In fact, the Oxford English Dictionary defines biopiracy as "derogatory bio-prospecting, regarded as a form of exploitation of developing countries."[56]

For instance, bio-prospecting is "undertaken in collaboration with intermediary bodies — including universities, governments[,] and non-government organizations — which are able to contribute expert yet relatively low-cost field research and are better placed to gain access to biodiversity 'hot spots.'"[57] In exchange for their involvement, these bodies receive project funding, scholarships[,] or technological hardware.[58] However, corporate partners inevitably retain the vast share of royalties for the sale of these products.[59] In recent years, certain environmental organizations "have also become involved in bio-prospecting activities, lending a degree of 'credibility' to the ventures but also casting doubt upon the integrity of these organizations' commitment to social justice and environmental preservation."[60]

3. Biopiracy Cases

The most documented case of biopiracy is that of India's Neem Tree (Azadiracta indica), which, for 2,000 years, was regarded by villagers as a "curer of all ailments," used to treat wounds, teeth and gum problems,

53. Victoria Tauli-Corpuz, *Is Biopiracy an Issue for Feminists in the Philippines?*, 32 SIGNS 332, 332 (2007).

54. John Ragnar, Biopiracy, the CBD and TRIPS — The Prevention of Biopiracy, at 6 (Spring 2004) (unpublished Master thesis, University of Lund), *available at* https://lup.lub.lu.se/luur/download?func=downloadFile&recordOId=1561387&fileOId=1565619 (last accessed May 28, 2012).

55. Global Exchange, Biopiracy: A New Threat to Indigenous Rights and Culture in Mexico, *available at* http://www.globalexchange.org/sites/default/files/MXbiopiracy.pdf (last accessed May 28, 2012).

56. Chris Hamilton, Biodiversity, Biopiracy and Benefits: What Allegations of Biopiracy Tell Us About Intellectual Property 159, *available at* http://www.aseanbiodiversity.info/Abstract/51009492.pdf (last accessed May 28, 2012) (citing Compact Oxford English Dictionary available at http://www.askoxford.com/concise_oed/biopiracy?view=uk (last accessed May 28, 2012)).

57. Global Exchange, *supra* note 55, at 4.

58. *Id.*

59. *Id.*

60. *Id.*

smallpox, hysteria, leprosy, malaria, snake bites, and more.[61] However, 70 patents were granted to western universities, drug and cosmetic companies, and genetic researchers covering various properties and genes of the tree.[62] One of these companies, W.R. Grace, was granted a patent by the European Patent Office (EPO) over extracts with fungicide action derived from the said tree.[63] This was contested by a group of international non-government organizations and representatives of Indian farmers, who filed a legal opposition showing evidence that the fungicidal effect of Neem seed extracts had been known and used for centuries, thereby negating the "novelty requirement" for patentability.[64] It was also challenged for being contrary to morality[65] and for insufficiency of disclosure.[66] Consequently, the European Patent Office revoked the patent, but critics argued that by that time, W.R. Grace had already exploited its monopoly.[67]

A recent case involves Hoodia, an appetite suppressant that capitalized on the traditional knowledge of the indigenous San people in South Africa.[68] Developed and patented by the South African Council for Scientific and Industrial Research (CSIR), exclusive rights were sold to a British company.[69] According to biopiracy-watch groups and San representatives, none of the projected royalties were earmarked for the San.[70] Thus, a claim was launched against the CSIR for failure to comply with the rules of the Convention on Biological Diversity (CBD), requiring PIC.[71] Eventually, a "Memorandum of Understanding" was reached between the parties, where the San would receive a share of any future royalties from the CSIR, along with offers of education programs, computer training and employment by

61. Maurice Malanes, *Biopiracy: Definition and Documented Cases*, PHIL. DAILY INQ., Feb. 24, 2008, *available at* http://opinion.inquirer.net/inquireropinion/talkofthetown/view/20080224-120805/Biopiracy-Definition-and-documented-cases (last accessed May 28, 2012).

62. *Id.*

63. *Id.*

64. *Id.*

65. Hamilton, *supra* note 56.

66. *Id.* (citing Boards of Appeal of the European Patent Office. 2005. Decision of 8 March 2005: Method for Controlling Fungi on Plants by the Aid of a Hydrophobic Extracted Neem Oil. Brussels: European Patent Office).

67. Malanes, *supra* note 61.

68. JAY MCGOWN, OUT OF AFRICA: MYSTERIES OF ACCESS AND BENEFIT SHARING 8 (2006).

69. *Id.*

70. Malanes, *supra* note 61.

71. *Id.*

cultivating the plant.[72] The San reportedly acceded to the agreement to do away with expensive and time-consuming litigation.[73]

There have also been several cases of biopiracy in the Philippines, given that the country is rich in biodiversity and natural wealth. For instance, for more than 20 years, French fashion house Yves St. Laurent was importing *ilang-ilang* (*Cananga odorata*) flowers from the Philippines, with their extract being used in their high class line of perfumes.[74] A few years before 1998, "Yves St. Laurent stopped importing ilang-ilang from the Philippines, put up its own plantations in Africa and secured a patent for its perfume formula based on the native Filipino species."[75]

The Philippine yew tree (*Taxus sumatrana*) has also been patented by the University of Philadelphia for taxol, an anti-cancer compound found in the needle and stem of the tree.[76] The researchers were able to obtain information on the strength of a "gratuitous permit" issued by the Cordillera regional environment and natural resources office.[77] They promised to send back a copy of the research but failed to do so, despite the Philippine government's requests.[78]

Most recently, a tree known as petroleum nut (*Pittosporum resineferum*) and endemic in the northern Philippines was found to have petroleum-producing properties.[79] It has an octane rating of 54 which is higher than that of *Jatropha curcas*, a tree that produces oil-containing seeds and native in tropical America,[80] which has only 41.[81] It can replace liquefied petroleum

72. *Id.*

73. *Id.*

74. The Gaia Foundation and Genetic Resources Action International (GRAIN), Biopiracy, TRIPS and the Patenting of Asia's Rice Bowl, *available at* http://www.grain.org/article/entries/27-biopiracy-trips-and-the-patenting-of-asia-s-rice-bowl (last accessed May 28, 2012).

75. *Id.*

76. Michael Bengwayan, Companies Rush to Patent Wildlife of the Philippines *available at* http://www.gmwatch.org/latest-listing/1-news-items/568companies-rush-to-patent-wildlife-of-the-philippines (last accessed May 28, 2012) [hereinafter Bengwayan, Rush to Patent].

77. Malanes, *supra* note 61.

78. *Id.*

79. Michael Bengwayan, Philippine Tree Is Wonder Biofuel *available at* http://cordilleraecologicalcenter.wordpress.com/2010/11/22/58/ (last accessed May 28, 2012) [hereinafter Bengwayan, Wonder Biofuel].

80. R.E.E. JONGSCHAAP, ET AL., CLAIMS AND FACTS ON JATROPHA CURCAS L. 1 (2007).

81. Bengwayan, Wonder Biofuel, *supra* note 79.

gas (LPG) for cooking and lighting, can run engines, and is currently being mass-reared by Dr. Michael A. Bengwayan, an environmentalist and who heads the Cordillera Ecological Center known as PINE TREE.[82] According to him, the tree can provide sustainable rural energy and lessens tree-cutting for firewood use.[83] Moreover, it is said that "[t]he oil comes from the fruit, not the seeds, and is highly flammable."[84] However, the tree is also in danger of falling into the hands of multinational companies.[85] In addition, according to Delmar Litilit, the environmental officer of PINE TREE, conservation of the tree is critical as it is only found in some four to five provinces.[86] To prevent biopiracy and exploitation, PINE TREE is seeking to put ownership of the tree into the hands of indigenous peoples of the Cordillera region of the Philippines.[87]

The spread of biopiracy has given rise to the need for legislation in order to combat such. Currently, there are two international conventions that relate to the issue of biopiracy: the CBD and the World Trade Organization (WTO) Treaty on Trade-Related Aspects of Intellectual Property Rights (TRIPS). It is known that "[t]he main goal of the CBD is to preserve biological diversity while the goal of TRIPS is to stimulate technological advancement, giving individual rights to the inventor through intellectual property rights (IPRs)."[88]

B. The Convention on Biological Diversity (CBD)

Opened for signature at the Earth Summit in Rio de Janeiro in 1992, and entering into force in December 1993,[89] the CBD was enacted for the conservation and sustainable use of biodiversity and the equitable sharing of the benefits from utilization of genetic resources.[90] With over 193 Parties,[91] it may be said that "the Convention has near universal participation among

82. *Id. See* Cordillera Ecological Center, PINE TREE, the Cordillera Ecological Centre, *available at* http://cordilleraecologicalcenter.wordpress.com/2010/12/02/pine-tree-the-cordillera-ecological-centre/ (last accessed May 28, 2012).

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.*

87. Bengwayan, Wonder Biofuel, *supra* note 79.

88. Ragnar, *supra* note 54, at 4.

89. Convention on Biological Diversity, History of the Convention, *available at* http://www.cbd.int/history/ (last accessed May 28, 2012).

90. *Id.*

91. Convention on Biological Diversity, List of Parties, *available at* http://www.cbd.int/convention/parties/list/ (last accessed May 28, 2012).

countries committed to preserving life on Earth."[92] According to the International Union for the Conservation of Nature (IUCN) and the International Academy of the Environment in Geneva, the CBD "sets out what governments have agreed on regarding mutual support to national efforts to conserve the wealth of the planet, and collaboration to enable biological resources to be developed and used to the maximum possible benefit of people."[93]

The CBD is the first international treaty to acknowledge the importance of the indigenous people's role in gathering and preserving cultural knowledge with regard to regional biodiversity, recognizing that indigenous communities should benefit from the monetary gains of their cultivation, preservation, and innovations.[94]

1. WTO TRIPS

The WTO, "the only global international organization dealing with the rules of trade between nations,"[95] was set up six months after CBD came into effect.[96] According to the Gaia Foundation and Genetic Resources Action International (GRAIN),

> [t]he [WTO] is particularly occupied with removing what it determines to be 'trade distortions' and 'barriers to trade.' In the last round of the General Agreement on Tariffs and Trade (GATT) negotiations in 1986, which gave rise to the establishment of WTO, the absence of strong intellectual property rights in developing countries was said to be a barrier to trade, costing industrialized countries some $200 billion in lost royalties per annum. The TRIPS was thus directed to bring developing countries' IPR laws to the level which transnational trading interests deem necessary.[97]

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92. Convention on Biological Diversity, United Nations Secretary-General Appoints the Japanese singer MISIA as Honorary Ambassador for the 2010 United Nations Biodiversity Conference (Press Release), *available at* http://www.cbd.int/doc/press/2010/pr-2010-03-01-misia-en.pdf (last accessed May 28, 2012).

93. Catherine Tinker, *A "New Breed" of Treaty: The United Nations Convention on Biological Diversity,* 12 Pace Int'l. L. Rev. 191, 195 (1995) (citing MARTIN HOLDGATE AND BERNARD GIOVANNINI, *Biodiversity Conservation: Foundations for the 21st Century, in* WIDENING PERSPECTIVES ON BIODIVERSITY 3-4 (1994)).

94. DeGeer, *supra* note 24, at 204.

95. World Trade Organization, What is the WTO?, *available at* http://www.wto.org/english/thewto_e/whatis_e/whatis_e.htm (last accessed May 28, 2012).

96. GRAIN, Global Trade and Biodiversity in Conflict, *available at* http://www.greens.org/s-r/19/19-10.html (last accessed May 28, 2012).

97. *Id.*

The TRIPS is universally regarded as the most comprehensive international agreement on IPRs, incorporating for the first time the protection of intellectual property rights into the GATT.[98] It has

> subsumed the international intellectual property regime created in the 1880s based on the Berne and Paris Conventions by providing for administrative and judicial enforcement of IPRs and border control of trade in infringements. This development was regarded necessary because of the perceived toothlessness of the Paris and Berne Conventions and the inability of World Intellectual Property Organization (WIPO) to modify the Paris Convention.[99]

2. Tensions between the CBD and TRIPS

Tensions, however, have arisen as a result of the granting of IPRs under the TRIPS *vis-à-vis* the objectives of the CBD. While the CBD requires Parties to "respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity"[100] and promotes the "wider application" of traditional knowledge with the approval and involvement of the holders of traditional knowledge,[101] TRIPS allows for the provision of patents over these genetic resources,[102] which seems contrary to the CBD's purpose.

TRIPS has been heavily criticized by developing countries, civil society, and consumers, who say that

> existing international rules on intellectual property rights (IPRs), as currently written, are imbalanced and tend to undermine progress towards sustainable development. Overly strong [IPRs], together with extended scope and duration of protection of these rights, are shifting control over information from consumers to producers and from Southern to Northern countries, and therefore consolidating control over one of the most important resources — knowledge. This shift in balance has the potential to negatively affect access and transfer of technologies, incentives to individual

98. Ajeet Mathur, *Who Owns Traditional Knowledge?*, *in* ECONOMIC AND POLITICAL WEEKLY 4479 (2003).

99. *Id.*

100. CBD, *supra* note 34, art. 8 (j).

101. *Id.*

102. *See* TRIPS: Agreement on Trade-Related Aspects of Intellectual Property Rights, art. 27, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, THE LEGAL TEXTS: THE RESULTS OF THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS 320 (1999), 1869 U.N.T.S. 299, 33 I.L.M. 1197 (1994) [hereinafter TRIPS].

> and community innovators, access to drugs, development options and the implementation of ... the CBD.[103]

These debates have given rise to the view that there are inconsistencies between the CBD and TRIPS, which can be summarized into three main points, as follows —

First, while the CBD grants states sovereign public rights over biological resources, TRIPS provides that these should be subject to private intellectual property rights.

Second, while the CBD provides that the use and exploitation of traditional knowledge and biodiversity must give rise to equitably shared benefits, there is no provision mentioning benefit-sharing in the TRIPS.

Finally, while the CBD provides that access to biological resources requires the PIC of the country of origin and local communities, there is no provision mentioning PIC in the TRIPS.

These perceived inconsistencies will be lengthily discussed in Chapter Two of this Note.

3. The Nagoya Protocol

Signed on 29 October 2010 in Nagoya, Japan by the 193 member states of the CBD,[104] the Nagoya Protocol is a set of rules and procedures for implementing the third objective of the CBD, which is access to genetic resources and the fair and equitable sharing of benefits arising from their utilization.[105] The new set of rules are now popularly known as ABS.[106] These new rules "mean that multinational companies will have to share their profits with local communities not only for using the original resource, but

103. David Vivas Eugui, What Agenda for the Review of TRIPS?: A Sustainable Development Perspective, *available at* http://www.ciel.org/Publications/AgendaTrips_Summer02.pdf (last accessed May 28, 2012).

104. Julio Godoy, Cataloguing Biodiversity Presents A Challenge, *available at* http://www.globalissues.org/news/2010/11/11/7606 (last accessed May 28, 2012).

105. Asian Centre for Biodiversity, World adopts Nagoya Protocol on ABS, Strategic Plan and Activities and Indicators for Resource Mobilization, *available at* http://aseanbiodiversity.org/index.php?option=com_content&view= article &id=645:world-adopts-nagoya-protocol-on-abs-strategic-plan-and-activities-and-indicators-for-resource-mobilization&catid=65:acb-news&Itemid=92 (last accessed May 28, 2012).

106. *Id.*

also any derivative products developed from it.[107] In particular, the Protocol provides as follows —

> In accordance with domestic law, each Party shall take measures, as appropriate, with the aim of ensuring that traditional knowledge associated with genetic resources that is held by indigenous and local communities is accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established.[108]

Although hailed as "a victory" by Ahmed Djoghlaf, the CBD Executive Secretary, and considered a success by many of the participants, some countries remarked that the protocol was not strong enough and still insufficient to fully combat biopiracy.[109] However, to enable the protocol to be adopted anyway, the language used relating to those points was kept very general.[110]

C. Discussion of Legal Issues

As seen from the discussion above, there are two clashing interests at hand — that of developing countries, which wish to preserve and protect their traditional knowledge and genetic resources, versus that of developed countries, which see the economic value of being granted IPRs over these. It does not help that two international laws, the CBD and TRIPS, appear to have conflicting provisions that can work in favor of one interest over the other.

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107. Priscilla Jebaraj, Nagoya Protocol: A Big victory for India, *available at* http://www.thehindu.com/ news/national/article859977.ece (last accessed May 28, 2012).

108. Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity art. 7, October 29, 2010, C.N.782.2010.TREATIES-1 [hereinafter Nagoya Protocol].

109. Catherine Saez, Compromise UN Protocol Treaty Against Biopiracy Adopted In Japan, *available at* http://www.ip-watch.org/weblog/2010/10/29/ compromise-un-protocol-treaty-against-biopiracy-adopted-in-japan/ (last accessed May 28, 2012).

110. Centre International de Reseaux Agriculture and Development (CIRAD), Nagoya: a protocol is adopted but some issues remain, *available at* http://www.cirad.fr/en/news/all-news-items/articles/2010/science/nagoya (last accessed May 28, 2012).

Even from its inception, the TRIPS was already met by vigorous resistance from developing countries.[111] Such countries "are apprehensive that the TRIPS is merely an exploitative mechanism employed to patent indigenous biological material."[112] On the other hand, the developed nations are concerned that without the "incentive of intellectual property protection, the motivation to create, invest, and invent will be lost."[113]

Thus, the primary issues to be resolved in this paper are *first*, whether or not the CBD and TRIPS are indeed inconsistent; and *second,* whether or not there is a need to resolve such inconsistencies in order to combat biopiracy. When a conflict exists between two treaties dealing with the same subject matter, the applicable rule is *lex posterior derogat lex anterior*[114] — the latter law prevails over the first[115] — which Article 30 of the Vienna Convention on the Law of Treaties (VCLT) enshrines.[116] In this case, TRIPS will prevail since it came into force after the CBD. However, given that CBD and TRIPS seem to differ in terms of subject matter,[117] the question of whether it is possible to still fully and simultaneously implement them arises. In order to address this issue, it is necessary to analyze the provisions of both laws and determine whether or not they are consistent.

Furthermore, given that the Philippines is a signatory to the CBD, Nagoya Protocol, and TRIPS,[118] domestic law will also be touched on. This is pursuant to the doctrine of incorporation[119] where treaties become part of the law of the land when concurred in by two thirds of the Senate.[120] The country has also been regarded as one of the most active and progressive countries in Asia in terms of recognizing the rights of indigenous peoples and developing legislation to implement some of the recommendations stemming

111. Lowell Bautista, *Bioprospecting or Biopiracy: Does the TRIPS Agreement Undermine the Interests of Developing Countries?*, 82 PHIL. L. J. 14, 15 (2007).

112. *Id.* at 16.

113. *Id.*

114. MARK E. VILLIGER, CUSTOMARY INTERNATIONAL LAW AND TREATIES 36 (1985).

115. *Id.*

116. *See* Vienna Convention on the Law of Treaties, May 23, 1969, art. 30, 1155 U.N.T.S. 331.

117. *Id.*

118. *See* Philippines: Indigenous Peoples and the Convention on Biological Diversity, *available at* http://www.wrm.org.uy/bulletin/62/Philippines.html (last accessed May 28, 2012) [hereinafter Phil. IP and CBD].

119. *See* JOAQUIN J. BERNAS, S.J., INTRODUCTION TO PUBLIC INTERNATIONAL LAW 60 (2009 ed.).

120. PHIL. CONST. art. VII, § 21.

from the CBD in relation to bio-prospecting.[121] Thus, the *third and final issue* to be resolved is whether or not the Philippines, in relation to the fight against biopiracy, is sufficiently complying with its obligations under international law.

D. Significance of the Study

Granting of patents on biological materials has been met by overwhelming oppositions from different parts of the world.[122] Indigenous people are outraged that plants they developed are being "hijacked" by companies.[123] Groups as diverse as religious leaders, parliamentarians, and environment non-governmental organizations (NGOs) are intensifying their campaign against the patenting of living things.[124] Legal petitions to challenge patents already granted have also been filed.[125]

While corporations make huge revenues from patenting, local communities are unrewarded and face the threat of having to buy the products of these companies at high prices.[126] Drugs that were produced locally, before the patent, increase in price because they are extracted from the local area, produced elsewhere and shipped back to the native country.[127] Moreover, these corporations are racing against one another to manufacture pharmaceutical products, mainly composed of the genetic materials of the medicinal plants and food crops of these local communities. These companies also collect other living things, ranging from soil microorganisms to animals and the genes of indigenous people, which they use for research and making new products.[128] There also "exists the presumption that traditional knowledge is in the public domain, encouraging the idea that nobody is harmed and no rules are broken when research institutions and corporations use it freely."[129] Because of this, traditional

121. Phil. IP and CBD, *supra* note 118.

122. Martin Khor, A Worldwide Fight Against Biopiracy and Patents on Life, *available at* http://www.twnside.org.sg/title/pat-ch.htm (last accessed May 28, 2012).

123. *Id.*

124. *Id.*

125. *Id.*

126. *Id.*

127. *See generally* Rebecca M. Bratspies, *The New Discovery Doctrine: Some Thoughts on Property Rights and Traditional Knowledge*, 31 AM. INDIAN L. REV. 315 (2006/2007).

128. Khor, *supra* note 122.

129. Rosa Giannina Alvarez Núñez, *Intellectual Property and the Protection of Traditional Knowledge, Genetic Resources and Folklore: The Peruvian Experience*, *in* MAX PLANCK YEARBOOK OF UNITED NATIONS LAW 497 (2008).

knowledge is threatened.[130] Indigenous communities that are not protected tend to migrate, resulting in the disappearance of an important source of traditional knowledge and biological diversity.[131]

Biopiracy breeds "social inequity by failing to compensate traditional communities for use of their knowledge and increase[s] mistrust between the business community and biodiversity rich countries over the potential commercial use of genetic resources and traditional knowledge."[132] It has also been argued that "traditional knowledge is central for [indigenous peoples'] ability to operate in an environmentally sustainable way and to conserve genetic and other natural resources. Protection of traditional knowledge is therefore closely linked to the protection of the environment."[133] Furthermore, "when [traditional knowledge] is supported, rewarded, and encouraged, a revitalization of it can be seen."[134]

The CBD was enacted because of the clamor to preserve biological diversity and protect the rights of indigenous peoples.[135] It recognizes the need to involve indigenous and traditional communities in an attempt to conserve and sustainably use the world's biodiversity.[136] On the other hand, TRIPS universalized the levels and forms of intellectual property protection, and has been primarily a commercial treaty with commercial objectives that largely benefit strong private firms.[137] These two laws have sparked much debate from the two opposing sides, the global north and the global south, as discussed above. There has also been much discussion on the necessity of international protection of traditional knowledge.[138] The seeming inconsistencies between the two international laws and the resulting global

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130. *Id.*

131. *Id.*

132. Center for International Environmental Law (CIEL), Genetic Resources, Traditional Knowledge and Intellectual Property Rights: Promoting Synergies for Sustainable Development, *available at* http://www.ciel.org/Publications/iprights.pdf (last accessed May 28, 2012) [hereinafter Promoting Synergies].

133. Núñez, *supra* note 129, at 500.

134. *Id.* at 497.

135. *See generally* Jennifer Amiott, Investigating the Convention on Biological Diversity's Protections for Traditional Knowledge (This article won the 2003 Davis Wright Tremaine International Law Writing Contest), *available at* http://wp.cedha.net/wp-content/uploads/2011/05/investigating-the-convention-on-biological-diversitys-protection.pdf (last accessed May 28, 2012).

136. *Id.*

137. *See* CIEL, Intellectual Property in the FTAA: Little Opportunity and Much Risk, *available at* http://www.ciel.org/Publications/IP_FTAA_Oct03.pdf (last accessed May 28, 2012).

138. Núñez, *supra* note 129.

debate make it necessary to analyze the two laws and consequently, find ways to harmonize them. This will help in successfully combating biopiracy to protect traditional knowledge and genetic resources.

In fact, Paragraph 19 of the Ministerial Declaration mandates the TRIPS Council to continue clarifying the relationship between TRIPS and CBD.[139] Ministers also asked the Trade and Environment Committee to continue to look at the relevant provisions of the TRIPS.[140] International action is also significant because national action only creates rights, which cannot be claimed and enforced in third countries.[141]

It is also important to identify a legal framework that will bind non-CBD parties who are signatories to TRIPS. Currently,

> if a country chooses not to ratify the CBD but insists that other countries comply with their obligations under TRIPS, the only recourse left to other countries would be to renegotiate TRIPS or renounce it by notice in accordance with the VCLT. This situation has resulted from the failure of the international community to link the rights and obligations under the TRIPS to rights and obligations under the CBD on a take-it or leave-it package deal basis.[142]

Finally, it is necessary to look into domestic law, since the Philippines is not only rich in biodiversity, but has also been regarded as one of the most active and progressive countries in Asia in terms of recognizing the rights of indigenous peoples.[143] The country is also a signatory to both the CBD and TRIPS, such that it has the obligation to develop legislation and measures to implement the provisions that stem from both treaties.[144]

II. CLASH OF TWO TREATIES: CONFLICT BETWEEN CBD AND TRIPS

A. Differences in Rationale

Article 1 of the CBD lays down the Conventions' objectives, as follows —

(1) the conservation of biological diversity;

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139. WTO, Doha WTO Ministerial 2001: Ministerial Declaration, WT/MIN(01)/DEC/1, ¶ 19, adopted Nov. 14, 2001, *available at* http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm (last accessed May 28, 2012) [hereinafter WTO Ministerial].

140. WTO, The Doha Declaration Explained, *available at* http://www.wto.org/english/tratop_e/dda_e/dohaexplained_e.htm (last accessed May 28, 2012) [hereinafter Doha Declaration].

141. Núñez, *supra* note 129, at 503.

142. Mathur, *supra* note 98, at 4473.

143. Phil. IP and CBD, *supra* note 118.

144. *Id.*

(2) the sustainable use of its components; and

(3) the fair and equitable sharing of the benefits arising out of the use of genetic resources.[145]

Sharing of the benefits from the use of genetic resources is defined to include "the appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies."[146]

Thus, "technology transfer is highlighted as a method for achieving one of the CBD's three principal objectives, and intellectual property rights are identified as a significant aspect of technology transfer."[147] Two sets of rights in respect of genetic resources can be identified from the CBD: the first set can be exercised over the genetic resources per se, while the second relates to the technologies that are based on those genetic resources.[148] In between these two sets of rights are the rights of traditional communities who have been the custodians of genetic resources and have the knowledge to exploit them in a sustainable manner.[149]

The CBD, through its language, tries to balance the said rights with a goal toward conservation. Article 15 lays down standards for access to biological resources, while Article 16 deals with technology transfer, emphasizing on the obligations of technology-rich developed countries.[150] The CBD, along with Principle 22 of the Rio Declaration,[151] "looks at the protection of traditional knowledge as an essential component of the broader concern for global ecological sustainability."[152]

As can be seen from its objectives, the purpose of the CBD is to strengthen developing countries' capacities to conserve and use biological

145. *See* CBD, *supra* note 34, art. 1.

146. *Id.*

147. KRISHNA DRONAMRAJU, EMERGING CONSEQUENCES OF BIOTECHNOLOGY: BIODIVERSITY LOSS AND IPR ISSUES 241 (2008).

148. Biswajit Dahr, *The Convention on Biological Diversity and the TRIPS Agreement: Compatibility or Conflict?*, *in* TRADING IN KNOWLEDGE: DEVELOPMENT PERSPECTIVES ON TRIPS, TRADE AND SUSTAINABILITY 78 (Christophe Bellmann, et al. ed.).

149. *Id.* at 78-79.

150. *See* CBD, *supra* note 34, arts. 15 & 16.

151. *See* U.N. Conference on Environment and Development, Rio de Janerio, June 3-14, 1992, *Rio Declaration on Environment and Development,* princ. 22, U.N. Doc. A/CONF.151/6/Rev.1 (June 14, 1992).

152. Bratspies, *supra* note 127, at 329.

diversity on a long-term basis by reserving them all rights over those resources, including the right to enjoy the benefits of their resource base.[153]

Furthermore, the CBD defines biodiversity as "the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems."[154] There are three aspects of the CBD that pertain to the preservation of cultural and biological diversity, as contained in Article 8 (j). These include the following —

(1) preserving and maintaining knowledge, innovations and practices of indigenous and local communities;

(2) promoting their wider application with the approval and involvement of the holders of such knowledge, innovations and practices; and

(3) encouraging the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.[155]

In relation to this, Article 15 of the same Treaty provides that "recognizing the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation."[156] Furthermore, access to genetic resources is subject to PIC,[157] and any scientific research is to be carried out with the full participation of the Contracting Parties.[158]

Through this, the CBD balances the self-interest of two groups of nations — one with a rich supply of genetic resources and another with their own resource, which they can offer to the first group, such as technology and financing.[159] In other words, it encourages equitable sharing of resources between the two groups.[160] Because of this balance, the CBD "is a significant departure from the old model of top-down treaty-making where economically weaker parties were expected to sign on the dotted line when presented with a final text."[161]

153. *See generally* Khor, *supra* note 122.

154. CBD, *supra* note 34, art. 2.

155. *Id.* art. 8 (j).

156. *Id.* art. 15 (1).

157. *Id.* art. 15 (5).

158. *Id.* art. 15 (6).

159. Tinker, *supra* note 93, at 194.

160. *Id.*

161. *Id.* at 195.

On the other hand, TRIPS was intended to standardize the differences in intellectual property protection between the global north and global south.[162] Because ideas and knowledge were becoming an increasingly important part of trade, creators were given the right to prevent others from using their inventions.[163] These rights now fall under the scope of IPRs. It has been said that

> [t]he extent of protection and enforcement of these rights varied widely around the world; and as intellectual property became more important in trade, these differences became a source of tension in international economic relations. New internationally-agreed trade rules for intellectual property rights were seen as a way to introduce more order and predictability, and for disputes to be settled more systematically.[164]

This, in particular, is what gave rise to the TRIPS.

The international agenda for the protection of intellectual property was essentially a proposal from the developed nations. For instance, "[j]ust as the [U.S.] pioneered the expansion of IPR protection to cover the products and processes of new technologies, [U.S.] companies played a major part in determining the framework of the TRIPS, with Japanese and European commercial interests playing an important supporting role."[165] Since the U.S., the European Union, and Japan had a tremendous influence in the WTO, their opinions drew the most attention in drafting the TRIPS.[166] These nations were influenced by the commercial interests of their corporate citizens.[167] Consequently, "[t]he pressure of these non-State actor interests, namely multinational companies, has helped to achieve the TRIPS' intended results."[168] Thus, amidst serious oppositions from developing countries, the TRIPS was adopted in Marrakesh, Morocco on 15 April 1994 and came into

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162. *See* Erika George, *The Human Right to Health and HIV/AIDS: South Africa and South-South Cooperation to Reframe Global Intellectual Property Principles and Promote Access to Essential Medicines*, 18 IND. J. GLOBAL LEGAL STUD. 167, 169 (2011).

163. WTO, Intellectual Property: Protection and Enforcement, *available at* http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm (last accessed May 28, 2012) [hereinafter WTO IP].

164. *Id.*

165. GRAHAM DUTFIELD, INTELLECTUAL PROPERTY RIGHTS, TRADE AND BIODIVERSITY 11 (2000 ed.).

166. *See* Bratspies, *supra* note 127, at 324.

167. *Id.*

168. Curci, *supra* note 13, at 14.

force on 1 January 1995.[169] Currently, there are 151 countries participating in the WTO, and consequently, in TRIPS.[170]

The goals of TRIPS are contained in its Preamble, which reproduces the basic Uruguay Round negotiating objectives established in the TRIPS area by the 1986 Punta del Este Declaration and the 1988/89 Mid-Term Review.[171] These include "the reduction of distortions and impediments to international trade, promotion of effective and adequate protection of intellectual property rights, and ensuring that measures and procedures to enforce intellectual property rights do not themselves become barriers to legitimate trade."[172] These objectives should be read in conjunction with Article 7, which provides that

> the protection and enforcement of intellectual property rights should contribute to the promotion of technological innovation and to the transfer and dissemination of technology, to the mutual advantage of producers and users of technological knowledge and in a manner conducive to social and economic welfare, and to a balance of rights and obligations.[173]

In line with this, Article 8 "recognizes the rights of Members to adopt measures for public health and other public interest reasons and to prevent the abuse of intellectual property rights, provided that such measures are consistent with the provisions of the TRIPS Agreement."[174]

TRIPS was expressly drafted "to ensure that intellectual property rights could be universally applied to all technologies, especially those which had previously been declared unsuitable for monopoly rights at the national level."[175] The areas of intellectual property that the TRIPS covers are:

> copyright and related rights (i.e., the rights of performers, producers of sound recordings and broadcasting organizations); trademarks including service marks; geographical indications including appellations of origin; industrial designs; patents including the protection of new varieties of

169. Bautista, *supra* note 111, at 19.

170. WTO, Handbook on Accession to the WTO: Accession in Perspective, *available at* http://www.wto.org/english/thewto_e/acc_e/cbt_course_e/c1s1p1_e.htm#txt3 (last accessed May 28, 2012).

171. WTO, Overview: The TRIPS Agreement, *available at* http://www.wto.org/english/tratop_e/trips_e/intel2_e.htm (last accessed May 28, 2012) [hereinafter Overview of TRIPS].

172. *Id.*

173. *Id.*

174. *Id.*

175. GRAIN, TRIPS versus CBD: Conflicts between the WTO Regime of Intellectual Property Rights and Sustainable Biodiversity Management, *available at* http://www.grain.org/briefings/?id=24 (last accessed May 28, 2012) [hereinafter TRIPS versus CBD].

> plants; the layout-designs of integrated circuits; and undisclosed information including trade secrets and test data.[176]

The TRIPS is thus "the first globally adopted treaty to make the patenting of life legal by requiring WTO Member States to provide patent protection for all fields of technology."[177] By establishing minimum levels of protection that each government has to give to the intellectual property of fellow WTO members, TRIPS

> strikes a balance between the long-term benefits and possible short-term costs to society. Society benefits in the long term when intellectual property protection encourages creation and invention, especially when the period of protection expires and the creations and inventions enter the public domain. Governments are allowed to reduce any short term costs through various exceptions, for example to tackle public health problems. [Also], when there are trade disputes over intellectual property rights, the WTO's dispute settlement system is available.[178]

Additionally,

> TRIPS contains provisions that allow a degree of flexibility and sufficient room for countries to accommodate their own patent and intellectual property systems and developmental needs. This means countries have a certain amount of freedom in modifying their regulations and, various options exist for them in formulating their national legislation to ensure a proper balance between the goal of providing incentives for future inventions of new drugs and the goal of affordable access to existing medicines.[179]

Conflicts arise, however, when the TRIPS allows genetic material or traditional knowledge to be used in an inventive process or to be incorporated into an invention without the existence of PIC and benefits.[180] Under the TRIPS, patents in all fields of technology shall be available for any invention, subject to certain conditions.[181] Paragraphs 2 and 3 of Article 27 outline the inventions Member States may exclude from patent protection under specified conditions.[182] The first, which is particularly supported by the European States, is the exclusion of inventions from patentability where it is necessary to "protect *ordre public* ... including ...

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176. Overview of TRIPS, *supra* note 171.

177. Curci, *supra* note 13, at 4.

178. WTO IP, *supra* note 163.

179. World Health Organization (WHO), WTO and the TRIPS Agreement, *available at* http://www.who.int/medicines/areas/policy/wto_trips/en/index.html (last accessed May 28, 2012).

180. Promoting Synergies, *supra* note 132.

181. *See* TRIPS, *supra* note 102, arts. 27 (2) & (3).

182. *Id.*

human, animal or plant life ... to avoid serious prejudice to the environment."[183] Members are also not required to grant patents on plants or animals.[184] However, without the support of international jurisprudence, "the interpretation of this provision remains subject to domestic patent laws and other judicial bodies. Thus, while providing some exceptions, the TRIPS allows Member States to provide patents or a *sui generis* system of protection over living organisms."[185]

A number of developing countries have contested the inclusion of Article 27 in the TRIPS because the said Provision identifies four possible options for implementation:

(1) Member States can allow patents on any invention in biotechnology by not excluding plants, animals, and biological processes;[186]

(2) Member States may exclude from patentability plants, animals, and biological processes, but not exclude new plant varieties;[187]

(3) Member States may choose not to patent new plant varieties (i.e., to exclude new plant varieties from patentability and introduce a *sui generis* system, an IPR protection of its own kind supported by the International Union for the Protection of New Varieties of Plants (UPOV) for the protection of plant varieties);[188] or

(4) Member States can also choose the U.S.-like solution of a double protection system of not excluding new plant varieties from patentability and simultaneously enjoying sui generis-UPOV protection.[189]

Hence, it would appear "that TRIPS obliges Member States to provide some kind of IPR protection on almost all life forms"[190] — one that may facilitate biopiracy.

According to David Downes, an attorney at Washington-based Centre for International Environmental Law,[191] it is necessary for governments to

183. *Id.* art. 27 (2).

184. *Id.* art. 27 (3).

185. Curci, *supra* note 13, at 6.

186. *Id.*

187. *Id.*

188. *Id. See also* TRIPS, *supra* note 102, art. 27 (3) (b).

189. *Id.*

190. *Id.*

maintain and extend the flexibility provided in Article 27 (3) in order to protect and promote traditional knowledge, and to experiment with *sui generis* regimes.[192] He opines that

> maintaining this discretion is essential to preserve the flexibility needed to experiment with various approaches to the protection of traditional knowledge, and to allow for further evaluation of other complex ethical and socio-economic issues. In contrast, requiring all countries to uniformly recognize life patenting and mandating uniform systems of plant variety protection would block countries from gaining the experience to implement the Convention on Biodiversity effectively.[193]

However, this flexibility, apart from facilitating biopiracy, can also result in "the filing of overly broad patent applications that include as part of the 'invention' biological discoveries and genetic materials in their 'natural state' or when the inventive step is examined in the patent filing procedures in an overly flexible manner."[194] National access laws have proved inadequate to address this situation — in particular, "to prevent [IPRs] from being granted in situations where the genetic material has been illegally accessed or is used without authorization in an inventive process or incorporated into an invention emanating from the national jurisdiction of a non-CBD party."[195] This shows the international nature of the problem.[196]

While TRIPS includes mechanisms intended to safeguard public health and the respect of IPRs, manufacturers of medicinal drugs have taken advantage of TRIPS to brand and patent their drugs to maximize on profit.[197] This has led to the disadvantage of people who cannot afford to buy the patented drugs because of their high costs.[198] WTO members, which are mostly developing countries, realizing the suffering that their people were facing in the wake of diseases such as HIV/Acquired Immunodeficiency Syndrome (AIDS), malaria, and tuberculosis, advocated

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191. Native Groups Win Major Victory in Biopiracy War, *available at* http://www.albionmonitor.com/9911a/copyright/amazonpatent2.html (last accessed May 28, 2012).

192. David R. Downes, *How Intellectual Property could be a Tool to Protect Traditional Knowledge*, 25 COLUM. J. ENVT'L. L. 253, 266 (2000).

193. *Id.*

194. Promoting Synergies, *supra* note 132.

195. *Id.*

196. *Id.*

197. Southern and Eastern African Trade Information and Negotiations Institute (SEATINI), Trade Related Aspects of Intellectual Property Rights (TRIPS Agreement), *available at* http://www.seatini.org/ publications/ factsheets/ trips.htm (last accessed May 28, 2012).

198. *Id.*

for the November 2001 Doha Ministerial Conference to revoke certain provisions of TRIPS to curtail the public health problems countries were facing.[199]

The Doha Ministerial Declaration was thus adopted by the WTO Ministerial Conference of 2001 in Doha on 14 November 2001.[200] Apart from stressing the importance of implementing and interpreting the TRIPS in a way that supports public health, by promoting both access to existing medicines and the creation of new medicines,[201] the Declaration also instructs the TRIPS Council "to examine, *inter alia*, the relationship between the TRIPS and the CBD, the protection of traditional knowledge and folklore, and other relevant new developments."[202]

This examination is relevant given that there are contending views on the issue, one in favor of developing countries, and the other in favor of developed countries. The question also

> assumes significance because traditional knowledge consists of information in the public domain as well as trade secrets; novelty thresholds of patent laws of countries differ greatly and are notoriously low in countries where pharmaceutical industry is strongest; and, patentability under TRIPS does not require prior informed consent of countries from where organic and informational resources are procured.[203]

B. National Sovereignty Versus Rights of IPR Holders

National sovereignty, as enshrined in the CBD, implies that countries have the right to prohibit IPRs on life forms or biological resources. Sovereignty is a principle of international law, which provides that "a state may — subject to any limitations prescribed by international law — freely determine and apply laws and policies governing the people and territory under its jurisdiction."[204] However, this is not absolute. In fact, and as one scholar puts it, "the principle of sovereignty over natural resources in international

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199. *Id.*

200. *See* WTO Ministerial, *supra* note 139.

201. Doha Declaration, *supra* note 140.

202. *See* WTO Ministerial, *supra* note 139, ¶ 19.

203. Mathur, *supra* note 98, at 4471.

204. Forest Peoples' Programme, The Convention on Biological Diversity, State Sovereignty and Indigenous Peoples' Rights, *available at* http://www.forestpeoples.org/sites/fpp/files/publication/2010/08/cbdlegalnov01.pdf (last accessed May 28, 2012).

law 'includes the duty to respect the rights and interests of indigenous peoples and not to compromise the rights of future generations.'"[205]

The CBD places a firm emphasis on sovereign rights over biological resources, while recognizing that the conservation of biological diversity is a "common concern" of humankind.[206] "Common concern" implies a common responsibility to the issue based on its paramount importance to the international community.[207]

The sovereign rights of states over their natural resources are referred to in the Preamble and twice in the main text. Under Article 3 of the CBD, "[s]tates have, in accordance with the Charter of the United Nations (UN) and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies."[208] This is a *verbatim* reproduction of Principle 21 of the Stockholm Declaration,[209] recognizing that States have the sovereign right to exploit their own resources pursuant to their own environmental policies.[210] Article 15 on access to genetic resources again recalls the sovereign rights of States over their natural resources as a basis for the authority to determine access to genetic resources.[211]

TRIPS, on the other hand, intends to provide private property rights over products and processes whether biodiversity-based or not[212] by allowing the provision of intellectual property rights on micro-organisms, non-biological and micro-biological processes, as well as patents and/or *sui generis* protection on plant varieties, as provided in Article 27.[213]

Prior to the TRIPS, "biological material was regarded as natural products rather than industrial products — discoveries rather than

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205. *Id.* (citing Schrijver, Sovereignty Over Natural Resources: Balancing Rights and Duties, Cambridge: Cambridge University Press (1997)).

206. LYLE GLOWKA, ET AL., A GUIDE TO THE CONVENTION ON BIOLOGICAL DIVERSITY 3 (1994) [hereinafter Glowka Guide].

207. *Id.* at 10.

208. *Id. See also* CBD, *supra* note 34, art. 3.

209. *See* U.N. Environment Programme, Stockholm, June 16, 1972, *Declaration of the United Nations Conference on the Human Environment*, princ. 21, *available at* http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503 (last accessed May 28, 2012).

210. Glowka Guide, *supra* note 206, at 3.

211. *Id.* at 5. *See also* CBD, *supra* note 34, art. 15.

212. TRIPS versus CBD, *supra* note 175.

213. *See* TRIPS, *supra* note 102.

inventions."[214] Biological products or processes were originally excluded from patentability on the grounds that such inventions could not meet all the requisite patent criteria, as follows —

(1) The invention must be *novel*, meaning basically that it has not been published anywhere before.[215]

(2) There is the criterion of *non-obviousness* — the invention must display an inventive step.[216]

(3) The invention must have an *industrial application* — a practical utility. One function of this utility requirement is to distinguish between basic research, considered to belong to the public domain, and applied technology, which is eligible for patenting.[217]

(4) The patent application must fulfill the criterion of *reproducibility*, in the sense that it must describe the invention in such detail that other experts may repeat the experiment and arrive at the same results.[218]

Aside from these criteria, patent legislation commonly excludes from patentability inventions whose utilization would run counter to "public order or morality."[219] However, developments in new biotechnologies have removed the barriers represented by these patent criteria, making patenting a practical possibility.[220] Patenting has been allowed because of the high costs involved in biotechnology as opposed to traditional breeding methods.[221] Given the tough competition in the private sector, biotechnology groups have been arguing strongly for compensation in terms of royalties.[222]

C. Community Rights Versus Private Individual Rights

214. G. Kristin Rosendal, *The Convention on Biological Diversity: A Viable Instrument for Conservation and Sustainable Use*, *in* GREEN GLOBE YEARBOOK OF INTERNATIONAL CO-OPERATION ON ENVIRONMENT AND DEVELOPMENT 71 (Georg Parmann & Øystein B. Thommessen ed., 1995).

215. *Id.*

216. *Id.*

217. *Id.*

218. *Id.*

219. *Id.*

220. Rosendal, *supra* note 214, at 71.

221. *Id.*

222. *Id.*

The CBD places the public interest and common good over private property and vested interests.[223] For centuries, genetic resources were viewed as a resource that was shared in common and accessible to all, also known as "common heritage of mankind."[224] Genetic resources were not owned by individuals or states, such that common heritage was associated with open access.[225] This meant that states did not generally restrict others from obtaining small samples of genetic resources like seeds or small clippings from plants.[226] These resources, being common property, were defined by their character of non-rivalry and non-exclusiveness.[227] The former "implies that it is possible for more than one person to use or consume the good without diminishing the amount available to others,"[228] while the latter "indicates that it is hard to exclude others from using or consuming the good."[229] For instance, air is an example of a non-rival and non-exclusive good.[230] This was also the case with clean water before, but today, its character of non-rivalry is rapidly declining in many parts of the world.[231]

The structure of property rights changed markedly in 20th century, when governments viewed genetic resources as a sovereign resource rather than as common heritage.[232] Individuals were thus given a wider range of varied intellectual property rights, including patents over these resources, as embodied in the TRIPS.[233] Harold Demsetz, Professor Emeritus of Economics at the University of California at Los Angeles,[234] argues that "the emergence of new property rights ... takes place in response to the desires of the interacting persons for adjustment to new benefit-cost possibilities."[235] In other words, an increase in the value of the resource because of an external circumstance, such as a technological development or the discovery of a new

223. *See* CBD, *supra* note 34, art.1.

224. Raustiala, *supra* note 16, at 278.

225. *Id.*

226. *Id.*

227. Rosendal, *supra* note 214, at 70.

228. *Id.*

229. *Id.*

230. *Id.*

231. *Id.*

232. Raustiala, *supra* note 16, at 285.

233. *Id.* at 282.

234. UCLA Economics *available at* http://www.econ.ucla.edu/people/faculty/Demsetz.html (last accessed May 28, 2012).

235. Raustiala, *supra* note 16, at 282 (citing Harold Demsetz, *Toward a Theory of Property Rights*, 57 AM. ECON. REV. 347, 350 (1967)).

application, may create a sufficient incentive for the development of property rights.[236]

Property rights theorists believe that "the superiority of private property as an institutional structure — said to be historically as well as theoretically demonstrated — can be explained by the nature of the prerogatives it confers on the holders of such rights."[237] Private property has the attributes of exclusivity and transferability, to wit —

> The *exclusivity prerogative* confers on the holder the exclusive possession of the right at stake. It is supposed to provide a maximal incentive to invest in resource conservation or the specific use considered. This argument is used to legitimate the extension of the system of patents to the products of biotechnology — ensuring exclusivity for the invention. Exclusivity is said to induce an efficient investment in research and technical progress in the field of biotechnology, an activity that contributes to the creation of new values for biodiversity.
>
> The *transferability attribute* entitles the holder to transfer the rights considered at freely agreed price and conditions. It guarantees an 'efficient' allocation of the rights, that is, their holding by the economic agents who most value them.[238]

This explains why TRIPS grants private rights on genetic resources, as seen in its Preamble, which defines intellectual property rights as being "private rights."[239] TRIPS states that "intellectual property rights are recognized only as private rights," which excludes the kind of communal knowledge present in indigenous tribes.[240] Article 27 of the same Treaty also requires that "signatory countries must protect property rights in genetic plant resources."[241] Right now, "[m]any nations are critical of adopting rights in nature but feel pressure to comply with the world trade system."[242]

It has been argued that IPRs applied to life forms under TRIPS

(a) Will prevent the CBD from realizing the full and practical meaning of Article 3 on national sovereignty and Article 8(j) on the rights of local and indigenous communities.

(b) Conservation of biological diversity as called for by the CBD is not possible under a global regime of private monopoly rights.

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236. *Id.*

237. Valérie Boisvert & Armelle Caron, *The Convention on Biological Diversity: An Institutionalist Perspective of the Debates*, 36 J. ECON. ISSUES 151, 154 (2002).

238. *Id.*

239. *See* TRIPS, *supra* note 106, pmbl.

240. DeGeer, *supra* note 24, at 193. *See* TRIPS, *supra* note 106, art. 27.

241. *Id.*

242. *Id.*

> Conservation of biological resources implies enormous responsibilities that TRIPS does not allocate to those who will benefit from ownership rights to these resources.
>
> (c) The private property regime established by TRIPS will undermine the implementation of the access and benefit-sharing provisions of CBD. Private monopoly can only begin where national or community sovereignty has been effectively suspended.[243]

It seems that

> under TRIPS, the very genetic resources which nations and communities are supposed to control access to will be under the control of intellectual property rights holders. Governments and communities will have no means of regulating access or demanding a share of benefits because they will be subject to private ownership, contrary to the objectives of CBD.[244]

D. Prior Informed Consent of States and Communities Versus Unilateral Patents

In the context of access to genetic resources, PIC is particularly important because of concerns about companies, research institutions, other entities, and individuals acquiring and using genetic resources and traditional knowledge from biodiversity-rich countries without the knowledge and permission of the rightful owners and holders.[245] As elaborated on in the first part of this Note, several cases of misappropriation, including cases for which patents have been obtained in "user" countries, have been documented.[246] This need to obtain the PIC is further bolstered by the 1997 General Recommendation XXIII of the UN Committee on the Elimination of Racial Discrimination, which called on state-parties to "recognize and protect the rights of indigenous peoples to own, develop, control[,] and use their communal lands, territories[,] and resources and, where they have been deprived of their lands and territories ... without their free and informed consent, to take steps to return these lands and territories."[247]

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243. TRIPS versus CBD, *supra* note 175.

244. *Id.*

245. International Union for Conservation of Nature (IUCN): The World Conservation Union, Facilitating Prior Informed Consent in the Context of Genetic Resources and Traditional Knowledge (A Discussion Paper Prepared in the Context of the IUCN Project entitled "Supporting the Global Biodiversity Agenda") 3, *available at* http://pdf.wri.org/ref/perrault_04_facilitating.pdf (last accessed May 28, 2012).

246. Promoting Synergies, *supra* note 132.

247. Committee on the Elimination of Racial Discrimination, General Recommendation 23, Rights of indigenous peoples (51st sess., 1997), U.N. Doc. A/52/18, annex V at 122 (1997), reprinted in Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, U.N. Doc. HRI\GEN\1\Rev.6 at 212 (2003).

Article 15 (5) of the CBD provides that access to genetic resources shall be subject to PIC from local communities.[248] Thus, intending collectors of genetic resources and traditional knowledge relating to the said resources must provide sufficient information on their work and its intended use, obtaining consent before beginning any work.[249] Under the national law of several countries, PIC "of the state as well as the relevant local communities has to be obtained. This implies that consent can also be denied, and is conditional on mutually-agreed terms for benefit-sharing between the collector, the state, and the local communities."[250] In sum, "[t]he PIC requirement is a measure to prevent misappropriation of resources and knowledge, and to facilitate fair benefit-sharing."[251]

On the other hand, in the TRIPS, there is no provision that requires patent applicants over genetic resources and traditional knowledge to obtain PIC. Consequently, it has been argued that

> there is thus no recognition in TRIPS of the rights of the country in which the biological resource or knowledge of its use is located. Thus, patent applicants can submit claims on biological resources or knowledge to patent offices in any country (that recognizes such patentability) and the patent offices can approve the claims without going through a process even of checking with the authorities of the country or countries of origin.[252]

Thus, it seems that while the CBD has set up PIC as a system to prevent misappropriation or biopiracy, TRIPS facilitates the possibility of such misappropriation by not recognizing the need for a PIC mechanism.[253]

E. Benefit-Sharing Agreements

Prior to the CBD, companies bio-prospected without any benefit-sharing other than paying collection fees. Today, the CBD gives developing countries a legal basis to demand a share of benefits.[254] Under Article 1 of the CBD, "fair and equitable benefit-sharing" is a complementary objective

248. *See* CBD, *supra* note 34, art. 15 (5).

249. Third World Network (TWN), Intellectual Property Rights, TRIPS Agreement, and the CBD: TWN Statement to the 2nd meeting of the Panel of Experts on Access and Benefit Sharing, *available at* http://www.twnside.org.sg/title/benefit.htm (last accessed May 28, 2012).

250. *Id.*

251. *Id.*

252. *Id.*

253. *Id.*

254. *See* CBD, *supra* note 34, art. 8 (j).

to sustainable use and conservation, and constitutes the gateway to PIC, negotiated access, and mutually agreed terms.[255]

Clearly, "[r]easonable and sustainable benefit-sharing can become an incentive for knowledge holders to conserve biological resources, alleviate poverty[,] and develop economically. Limited only by ingenuity, what is 'fair and equitable' is determined by national authorities and the parties to specific ABS arrangements."[256] Although a comprehensive policy for compensating communities for their intellectual property would be difficult to achieve, a compensation policy can be determined by collectors on a case to case basis.[257] It has been suggested "that collectors provide regional non-governmental organizations with legal resources, primary health care, medicinal plant nurseries for overexploited or endangered species, or educational bursaries."[258]

The TRIPS, on the other hand, does not have any provision on benefit-sharing,[259] such that developed countries may end up exploiting indigenous communities, reaping much higher benefits and leading to biopiracy.

In an attempt to strengthen the benefit-sharing policy of the CBD, the Nagoya Protocol was enacted. However, it has been argued that the Protocol is still insufficient to fully combat biopiracy. For instance, the Protocol provides that user countries must ensure that users within their jurisdiction who carry out research and development of the genetic resource and derivatives do so in compliance with the law and other regulatory requirements of the provider country.[260] "Research and development" is not defined. It is open to national law to define it widely to cover the whole chain — any stage of research, development, modification, innovation, pre-commercialization, and commercialization in relation to the resource acquired. The Protocol also requires countries to "place 'effective, appropriate[,] or proportionate' measures that ensure that the resource has been legally accessed and its utilization in compliance with the provider's country's laws and legal requirements; and that benefit sharing provisions are in place."[261] They must also "establish 'effective, appropriate[,] or

255. Stephen Tully, *The Bonn Guidelines on Access to Genetic Resources and Benefit Sharing*, *in* REVIEW OF EUROPEAN COMMUNITY & INTERNATIONAL ENVIRONMENTAL LAW (RECIEL) 90 (2003).

256. *Id.*

257. REID, *supra* note 4.

258. *Id.*

259. *See* TRIPS, *supra* note 102, art. 27.1.

260. Nagoya Protocol, *supra* note 108, art. 16.

261. Gurdial Singh Nijar, The Nagoya Protocol on Access and Benefit Sharing of Genetic Resources: Analysis and Implementation of Genetic Resources: Analysis and Implementation Options for Developing Countries (An

proportionate' sanctions for failure to comply with the measures they have established."[262] However, the Protocol does not define what are "'effective, appropriate[,] or proportionate' measures."[263]

Furthermore, to fulfill the CBD's "access to genetic resources and benefit sharing (ABS)" objective, Article 5.1 of the Nagoya Protocol requires states to ensure that the PIC of the appropriate community is obtained in relation to access to genetic resources again where that community has "established rights."[264] This, however, is "subject to domestic law."[265] Similarly, in Article 12, states are required, in implementing the Protocol, "to take into consideration indigenous and local communities' customary laws."[266] However, this is also required to be done "in accordance with domestic law." The problem with this is that reference to the overriding nature of domestic law may reveal sensitivity in some of the negotiating parties.[267] As a result, "the unscrupulous state that desires to exploit indigenous rights ... is given a number of opportunities in the text to take advantage of this permission to override these qualified international prescriptions through national idiosyncrasies."[268]

Apart from this, the Protocol will only apply to genetic resources collected after the said law enters into force, such that persons or companies have no obligation to share benefits on any of the resources they have already collected.[269] The Africa Group wanted the Nagoya Protocol to apply to existing collections of genetic resources, but the European Union argued that this would go against legal clarity and certainty.[270] It is believed that "[t]his issue of 'scope' is still a big area of tension — one that was 'fudged' in

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Unpublished Research Paper Issued by the South Centre) 6, *available at* http://tkbulletin.wordpress.com/2011/05/11/resource-research-paper-on-the-abs-protocol-and-options-for-implementation/ (last accessed May 28, 2012).

262. *Id.*

263. *Id.*

264. Nagoya Protocol, *supra* note 108, art. 5.

265. *Id.*

266. *Id.* art. 12.

267. Stuart R. Harrop, *Living in Harmony with Nature? Outcomes of the 2010 Nagoya Conference of the Convention on Biological Diversity*, 23 J. ENVT'L. L. 117, 127 (2011).

268. *Id.*

269. International Institute for Environment and development (IIED), IIED Insights: Q&A with Krystyna Swiderska on the Nagoya Protocol, *available at* http://www.iied.org/natural-resources/key-issues/biodiversity-and conservation/iied-insights-qa-krystyna-swiderska-nagoy (last accessed May 28, 2012) [hereinafter IIED Insights].

270. *Id.*

Nagoya by saying that the Protocol will apply to genetic resources 'in accordance with CBD.'"[271] Given that the CBD applies from 1993, the wording could be interpreted to cover all resources collected since 1993.[272]

Further, the laws or regulatory requirements that must be adhered to must be that of the "other Party." This last qualifier departs from the language in the Protocol[273] that the resources accessed must be those that are provided by the countries of origin of such resources or the Parties that have acquired the resources in accordance with the CBD.[274] Concerns have been raised that departing from this CBD formula may only promote biopiracy.[275] For example,

> resources may have been accessed illegally from a country of origin X, by another country Y. If a user accesses these from country Y ('the other Party') in compliance with the ABS law of country Y, the user country may argue that it does not have to ensure compliance with the ABS requirements of the country of origin X.[276]

Finally, the Nagoya Protocol requires states to encourage non-parties to comply with its provisions.[277] Although this requirement is laudable in its efforts to include parties who did not ratify the convention, such as the U.S., one of the biggest users of genetic resources worldwide,[278] it still does not guarantee compliance with the Protocol's provisions. Ultimately, signatories to the TRIPS that are not signatories to the CBD will not be bound by the Nagoya Protocol. Countries that do not comply with the Protocol will not be sanctioned — only placed under political pressure.[279] Also, "[it] requires industrialized countries to set up one or more checkpoints for disclosing what they have accessed and where, and to monitor whether they are complying with the Protocol."[280] Thus, the Nagoya Protocol, although

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271. *Id.*

272. *Id.*

273. *See* CBD, *supra* note 34, arts. 5 (1) & 15 (3).

274. Claudio Chiarolla, Biopiracy and the Role of Private International Law under the Nagoya Protocol (A Working Paper Presented at the Workshop Entitled "The 2010 Nagoya Protocol on Access and Benefit-sharing: Implications for International Law and Implementation Challenges") 13, *available at* http://www.iddri.org/Publications/Collections/Idees-pour-le-debat/WP0212_Chiarolla_PIL%20Nagoya.pdf (last accessed May 28, 2012).

275. *Id.*

276. *Id.*

277. Nagoya Protocol, *supra* note 108, art. 18.

278. IIED Insights, *supra* note 269.

279. *Id.*

280. *Id.*

bolstering the CBD's benefit-sharing objective, is still insufficient to address the tensions between the CBD and TRIPS.

III. COMBATING BIOPIRACY IN THE DOMESTIC FIELD

A. Background on Bio-Prospecting and Biopiracy in the Philippines

The Philippines, together with Brazil, ranks fifth among the world's biological "hotspots," having an estimated 9,000 species of flora, a third of which is considered indigenous to a particular community.[281] Moreover, "the Philippines' Department of Health (DOH) has reported that there are approximately 250,000 traditional healers in the country, a ratio of one healer for every 300 persons. They instruct their patients on community-based preparations of herbal decoctions, poultices[,] and other preparations for primary health care."[282] After "[c]onducting a 10-year bio-prospecting activity since 1990, the Botanical Research Institute of Texas and the Philippine National Museum have already collected over 100,000 specimens in the most interesting and endangered areas of the country."[283] Some "local bio-specimens already patented abroad include the *amplaya* (*Mamantia mordica*) [ ] and *talong* (*Solanum melongena*), which are believed to have potential in curing thrombosis (blood clotting) and the [HIV], which causes AIDS."[284]

Because of its rich biodiversity, the Philippines has also been a victim of biopiracy. A classic case is that of the Philippine sea snail (*Conus magus*), a powerful painkiller that was patented by Neurex, Inc., a U.S.-based pharmaceutical company.[285] To make matters worse, it has been reported that

> government-paid Philippine scientists, using public funds, collaborated to form and finance a private company called Gene Seas Asia to capitalize in the commercial value of the snail which ultimately led not only to the

281. Chakravarthi Raghavan, Philippine Government Clamps Down on Biopirates, *available at* http://www.twnside.org.sg/ title/clamps.htm (last accessed May 28, 2012).

282. WHO Western Pacific Region, Regional Strategy for Traditional Medicine in the Western Pacific 7, *available at* http://www.wpro.who.int/publications/docs/RS_tradmed.pdf (last accessed May 28, 2012).

283. Raghavan, *supra* note 281.

284. Federico D. Pascual Jr., *Alien Biopirates Patent Stolen RP Wonder Cures*, PHIL. STAR, Mar. 16, 2000, *available at* http://www.manilamail.com/archive/mar2000/00mar16.htm (last accessed May 28, 2012).

285. *Id.*

> foreign ownership of the snail, but to the exploitation of the same by a foreign company.[286]

Several other cases of biopiracy in the Philippines have been discussed in the first part of this Note. Consequently, and pursuant to its international obligations under the CBD, Congress has enacted legislation to prevent biopiracy, while still allowing for the utilization and maximization of the country's resources. For instance, bio-prospecting or exploring for genetic resources is allowed in the country but the applicant must obtain consent from "designated government authorities, local community, indigenous people, the protected area or *ex situ* manager, or private land owner *after* disclosing fully the intent and scope of the bio-prospecting activity."[287]

As the Philippines is a signatory to the CBD and TRIPS, as well as the recently adopted Nagoya Protocol, it is relevant to look at existing domestic laws enacted related to such. Having signed these treaties, the Philippines is bound to comply with the provisions of such given that, pursuant to the 1987 Constitution, treaties become part of the law of the land when duly ratified.[288] An analysis of domestic laws will also provide a better understanding of the country's response to biopiracy in relation to an international context.

B. Existing Laws

1. The 1987 Philippine Constitution

The 1987 Philippine Constitution is replete with provisions on the protection of the environment and indigenous peoples. First of all, it declares as State policy "the right of the people to a balanced and healthful ecology, in accordance with the rhythm of nature."[289] It also provides, under the *Regalian Doctrine*, that "wildlife, flora and fauna, and other natural resources are owned by the State. ... The exploration, development, and utilization of

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286. Bengwayan, Rush to Patent, *supra* note 76.

287. Santiago Carrizosa, *Diversity of Policies in Place and in Progress*, *in* ACCESSING BIODIVERSITY AND SHARING THE BENEFITS: LESSONS FROM IMPLEMENTING THE CONVENTION ON BIOLOGICAL DIVERSITY 23 (2004) (emphasis supplied). *See also* An Act Providing for the Conservation and Protection of Wildlife Resources and their Habitats, Appropriating Funds Therefor and for Other Purposes [Wildlife Resources Conservation and Protection Act], Republic Act No. 9147, § 2 (2001) & Office of the President, Guidelines and Regulations for the Prospecting of Biological and Genetic Resources, Executive Order No. 247 (May 18, 1995) [hereinafter Guidelines for Bio-Prospecting].

288. *See* BERNAS, *supra* note 119, at 60. *See also* PHIL. CONST. art. VII, § 21.

289. PHIL. CONST. art. II, § 16.

natural resources shall be under the full control and supervision of the State."[290]

As to the protection of indigenous people, Section 17 of Article XIV provides that "[t]he State shall recognize, respect, and protect the rights of the indigenous cultural communities to preserve and develop their cultures, traditions and institutions. It shall consider these rights in the formulation of national plans and policies."[291] Similarly, Article II, Section 22 "recognizes and promotes the rights of indigenous cultural communities within the framework of national unity and development."[292] Article XVI, Section 12 also provides that "Congress may create a consultative body to advise the President on policies affecting indigenous cultural communities, the majority of the members of which shall come from such communities."[293]

At the same time, the Constitution, although advocating the rights of indigenous people and conservation of the environment, also recognizes the importance of research and technology. Article XIV, Section 10 recognizes that

> [s]cience and technology are essential for national development and progress. The State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and services. It shall support indigenous, appropriate, and self-reliant scientific and technological capabilities, and their application to the country's productive systems and national life.[294]

In relation to this, the State is mandated to "regulate the transfer and promote the adaptation of technology from all sources for the national benefit"[295] and to "encourage the widest participation of private groups, local governments, and community-based organizations in the generation and utilization of science and technology."[296]

Clearly, the Constitution is supportive of both the CBD and the TRIPS. It recognizes the State's sovereignty over its natural resources with a goal toward conservation and preservation, as embodied in the CBD. On the other hand, it also recognizes the impact of research and technology, and how these can be a tool for the maximization of benefits, such as the improvement of indigenous knowledge and development of pharmaceutical products through traditional knowledge. This is consistent with the TRIPS'

290. PHIL. CONST. art. XII, § 2.

291. PHIL. CONST. art. XIV, § 17.

292. PHIL. CONST. art. II, § 22.

293. PHIL. CONST. art. XVI, § 12.

294. PHIL. CONST. art. XIV, § 10.

295. PHIL. CONST. art. XIV, § 12.

296. PHIL. CONST. art. XIV, § 12.

rationale of encouraging research, development, and innovation through the provision of patents.

2. The Wildlife Resources Conservation and Protection Act and Corresponding Guidelines

The Wildlife Resources Conservation and Protection Act or Republic Act No. 9147[297] aims to

> protect the country's fauna from illicit trade, abuse[,] and destruction through (1) conserving and protecting wildlife species and their habitats, (2) regulating the collection and trade of wildlife, (3) pursuing, with due regard to the national interest, the Philippine commitment to international conventions, protection of wildlife and their habitats, and (4) initiating or supporting scientific studies on the conservation of biological diversity.[298]

The Act does not define biopiracy, but provides a definition of bio-prospecting, which is "the research, collection[,] and utilization of biological and genetic resources for purposes of applying the knowledge derived therefrom solely for commercial purposes."[299] Bio-prospecting is allowed as long as PIC is obtained from concerned indigenous cultural communities, local communities, the management board, or private individuals.[300] The applicant must also fully disclose the intent and scope of the bio-prospecting activity in a language and process understandable to the community.[301]

This was further emphasized in the Guidelines and Regulations for the Prospecting of Biological and Genetic Resources[302] and the Joint DENR-DA-PSCD-NCIP Administrative Order No.1, Series of 2005, also known as the Joint Guidelines for Bio-prospecting Activities in the Philippines.[303] These Guidelines were enacted pursuant to the Wildlife Resources

297. Wildlife Resources Conservation and Protection Act.

298. Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), Wildlife Resources Conservation and Protection Act: Ensuring Ecological Sustainability, *available at* http://www.bic.searca.org/feature/RA-9147.html (last accessed May 28, 2012). *See also* Wildlife Resources Conservation and Protection Act, § 2.

299. Wildlife Resources Conservation and Protection Act, § 5 (a).

300. *Id.* § 14.

301. *Id.*

302. Guidelines for Bio-Prospecting.

303. Department of Energy and Natural Resources (DENR), Department of Agriculture (DA), Palawan Council for Sustainable Development (PCSD), and the National Commission on Indigenous People (NCIP), Joint DENR-DA-PCSD-NCIP Administrative Order No. 1 Series of 2005, Guidelines for Bio-Prospecting Activities in the Philippines (Jan. 14, 2005) [hereinafter Joint Guidelines].

Conservation and Protection Act, and provide that "the State shall ensure that the [PIC] is obtained from resource providers before allowing any bio-prospecting activity."[304]

Under the said Guidelines, PIC is defined as "the consent obtained by the applicant from the local community, [Protected Area Management Board] (PAMB), or Private Land Owner concerned, after disclosing fully the intent and scope of the bio-prospecting activity, in a language and process understandable to the community, and before any wildlife collection activity is undertaken."[305] The law also provides that the State shall ensure the fair and equitable sharing with the resource providers of benefits attained from the use of biological resources.[306] The guidelines provide for a process by which PIC is to be obtained before proceeding with bio-prospecting activities.[307] This includes a request for a community assembly, which will state the purpose, duration, methodology, and other pertinent details of the activity, as well as a statement that "the activity will not in any way affect the traditional use or subsistence consumption of the resources by the local communities within their area."[308] The process culminates in the signing of the PIC certificate by the PAMB, which is created for each protected area, within 30 days after the consultation granting such consent.[309]

Thus, "the procedure to secure PIC at the local level varies depending on whether a commercial or academic research agreement is sought."[310] The primary difference is seen in relation to when the PIC certificate is obtained for the commencement of the activity.[311] For instance, "[f]or commercial agreements, PIC must be secured as a condition for the Inter-agency Committee to process the application further and a subsequent recommendation in favor of a commercial research agreement. In contrast, for academic agreements, PIC only needs to be secured prior to the commencement of the bio-prospecting activity."[312]

Depending upon negotiations, benefits may be given by the bio-prospector in the form of

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304. *Id.* § 1.2.

305. *Id.* § 5.

306. *See* Joint Guidelines, § 14.

307. *Id.* § 13.2 (b).

308. *Id.*

309. *Id.* § 13.2 (c).

310. LYLE GLOWKA, DESIGNING LEGAL FRAMEWORKS TO DETERMINE ACCESS TO GENETIC RESOURCES 62 (1998) [hereinafter Glowka Design].

311. *Id.*

312. *Id.*

(1) a bio-prospecting fee to the national government;[313]

(2) up-front payments to the resource providers;[314]

(3) royalties shared between the national government and resource providers;[315] or

(4) a share of local governments.[316]

The law has also set the bio-prospecting fee at a minimum of $3,000 for each bio-prospecting undertaking,[317] but makes an exception such that Filipino resource users with no foreign collaborators will only have to pay 10% of the said amount.[318]

Finally, the Guidelines provide for details on benefit-sharing, where the resource user and providers shall come to an agreement regarding payment of monetary and non-monetary benefits.[319] In effect, the Guidelines provide an array of options for benefit-sharing, such that non-monetary benefits may also be agreed upon in addition to the minimum monetary compensation required.[320] There is also a clause on non-reimbursement, which provides that "[a]ll payments made by the resource user to any provider-group are non-reimbursable even if no profit is eventually realized from the bio-prospecting activity."[321]

By providing a mechanism for obtaining PIC, the Wildlife Resources Conservation and Protection Act and its corresponding guidelines are consistent with the CBD's goals of protecting indigenous communities and encouraging equitable benefit sharing. Moreover, the fact that the sharing of benefits is explicitly provided for also shows that patenting of genetic resources is *not* prohibited, which is consistent with the TRIPS.

3. Traditional and Alternative Medicines Act (TAMA) of 1997

The Traditional and Alternative Medicines Act (TAMA) of 1997[322] was enacted in line with

313. Joint Guidelines, § 14.4 (a).

314. *Id.* § 14.4 (b).

315. *Id.* § 14.4 (c).

316. *Id.* § 14.4 (d).

317. *Id.* § 15.1.

318. *Id.* § 15.3.

319. Joint Guidelines, §§ 16, 17, & 20.

320. *Id.* § 17.

321. *Id.* § 18.1.

322. An Act Creating the Philippine Institute of Traditional and Alternative Health Care (PITAHC) to Accelerate the Development of Traditional and Alternative

> the policy of the State to seek a legally workable basis by which indigenous societies would own their knowledge of traditional medicine. When such knowledge is used by outsiders, the indigenous societies can require the permitted users to acknowledge its source and can demand a share of any financial return that may come from its authorized commercial use.[323]

The Act also defines IPRs as "the legal basis by which the indigenous communities exercise their rights to have access to protect, control over their cultural knowledge and product, including, but not limited to, traditional medicines, and includes the right to receive compensation for it."[324]

A reading of the law shows that TAMA is consistent with The Wildlife Resources Conservation and Protection Act and its corresponding guidelines. TAMA emphasizes on the right of indigenous people to receive compensation for their resources and knowledge. Both the Wildlife Act and TAMA adopt "a two-tier approach of (i) promoting the use and development of traditional medicine by improving their quality and status and (ii) preventing misappropriation of traditional biological resources and medicinal knowledge by regulating access, requiring benefit sharing and establishing communities rights over their resources and knowledge."[325] This is also consistent with the objectives of the CBD.

Furthermore, TAMA explicitly considers these indigenous communities as having IPRs over their cultural knowledge and product, including traditional medicines.[326] However, the law does not go any further than such definition, leaving a variety of interpretations. The grant of IPRs under TAMA may be perceived simply as the right of indigenous people to exercise some form of ownership over their traditional knowledge and genetic resources, such that this cannot be exploited by other entities, nor used without PIC and just compensation. However, when read together with the Wildlife Resources Conservation and Protection Act, one can conclude that this grant of IPRs is not exclusive to indigenous communities, as the government is, in fact, entitled to a share in the benefits.

Health Care in the Philippines, Providing for a Traditional and Alternative Health Care Development Fund and for Other Purposes [Traditional and Alternative Medicine Act (TAMA) of 1997], Republic Act No. 8423 (1997).

323. *Id.* art. I, § 2.

324. *Id.* art. II, § 4 (i).

325. WHO, TRIPS, CBD and Traditional Medicines: Concepts and Questions (Report of an ASEAN Workshop on the TRIPS Agreement and Traditional Medicine), *available at* http://apps.who.int/medicinedocs/en/d/Jh2996e/12.3.html (last accessed May 28, 2012) [hereinafter WHO Traditional Medicines].

326. Traditional and Alternative Medicine Act (TAMA) of 1997, art. II, § 4 (i).

Moreover, this gives rise to the issue of whether these rights are actually enforceable given that IPRs under TAMA are defined in a very generic manner. If read together with the Intellectual Property Code,[327] one cannot help but ask what kind of IPRs TAMA is referring to. Would this fall under patents, copyrights, trademarks, or geographical indications? How will these be enforced and against whom? The law provides no standards or guidelines for such.

4. Indigenous Peoples Rights Act (IPRA) of 1997

The Indigenous Peoples Rights Act (IPRA) of 1997[328] defines "free and prior informed consent (FPIC)" as

> the consensus of all members of the indigenous cultural communities or peoples to be determined in accordance with their respective customary laws and practices, free from any external manipulation, interference[,] and coercion, and obtained after fully disclosing the intent and scope of the activity, in a language and process understandable to the community.[329]

Thus,

> access to biological and genetic resources and to indigenous knowledge related to the conservation, utilization[,] and enhancement of these resources shall be allowed within ancestral lands and domains of the [Indigenous Cultural Communities/Indigenous Peoples] (ICCs/IPs) only with the free and prior informed consent of such communities, obtained in accordance with customary laws of the concerned community.[330]

Moreover, "customary laws" are defined as "a body of written and/or unwritten rules, usages, customs[,] and practices traditionally and continually recognized, accepted[,] and observed by respective ICCs/IPs."[331] Relevant provisions of the Act in relation to the CBD and TRIPS are found under Chapter VI on Cultural Integrity, to wit —

> Sec. 32. *Community intellectual rights* — ICCs/IPs have the right to practice and revitalize their own cultural traditions and customs. The State shall

327. An Act Prescribing the Intellectual Property Code and Establishing the Intellectual Property Office, Providing for its Powers and Functions, and for Other Purposes [Intellectual Property Code of the Philippines], Republic Act No. 8293 (1998).

328. An Act to Recognize, Protect and Promote the Rights of Indigenous Cultural Communities/ Indigenous People, Creating a National Commission of Indigenous People, Establishing Implementing Mechanisms Appropriating Funds Therefor, and for Other Purposes [Indigenous Peoples Rights Acts of 1997], Republic Act No. 8371 (1997).

329. *Id.* § 3 (g).

330. *Id.* § 35.

331. *Id.* § 3 (f).

> protect and develop past, present[,] and future manifestations of their cultures, as well as the right to the restitution of cultural, intellectual, religious[,] and spiritual property taken without their free and prior informed consent or in violation of their laws and traditions.[332]
>
> ...
>
> Sec. 34. *Right to indigenous knowledge systems and practices* — ICCs/IPs are entitled to the recognition of the full ownership, control and protection of their cultural and intellectual rights. They shall have the right to special measures to control, develop and protect their sciences, technologies and cultural manifestations, including human and other genetic resources and seeds, including derivatives of these resources, traditional medicines and health practices, vital medicinal plants, animals and minerals, indigenous knowledge systems and practices, knowledge of fauna and flora, oral traditions, literature, designs and visual performing arts.[333]
>
> Sec. 35. *Access to biological and genetic resources* — Access to biological and genetic resources and to indigenous knowledge related to the conservation, utilization and enhancement of these resources, shall be allowed within the ancestral lands and domains of the ICCs/IPs only with free and prior informed consent of such communities, obtained in accordance with their customary laws.[334]

The IPRA recognizes "the full ownership, control[,] and protection of their [indigenous peoples'] cultural and intellectual rights"[335] and the right "to control, develop[,] and protect ... genetic resources ... including derivatives of these resources, [and] traditional medicines."[336] Similar to TAMA, this once again puts forth the idea of ownership of genetic resources and traditional knowledge, meaning such cannot be accessed without PIC and sharing of benefits.

This also leaves the question of what kind of IPRs indigenous peoples have, considering that the Philippines is also a signatory to the TRIPS, which allows other countries or pharmaceutical companies to patent these resources and knowledge. In order to enforce such IPRs, is it therefore sufficient to simply have bio-prospecting guidelines with corresponding fines for violations? More on this will be discussed in the analysis of this Note.

5. Intellectual Property Code of the Philippines

The Philippines, being a member of the World Intellectual Property Organization (WIPO), enacted into law the Intellectual Property Code or

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332. *Id.* § 32.

333. *Id.* § 34.

334. Indigenous Peoples Rights Acts of 1997, § 35.

335. *Id.* § 34.

336. *Id.*

Republic Act No. 8293,[337] which took effect on January 1998.[338] The Code was enacted pursuant to the recognition "that an effective intellectual and industrial property system is vital to the development of domestic and creative activity, facilitates transfer of technology, attracts foreign investments, and ensures market access for our products."[339] It seeks to "protect and secure the exclusive rights of scientists, inventors, artists and other gifted citizens to their intellectual property and creations, particularly when beneficial to the people,"[340] and acknowledges that "the use of intellectual property bears a social function,"[341] which the State must encourage "for the promotion of national development and progress and the common good."[342]

The question to be resolved is whether traditional knowledge and genetic resources could fit in, or whether they in fact *have* a place in the current intellectual property system. To patent an invention, three criteria must be met: (1) novelty, (2) inventiveness (or non-obviousness), and (3) industrial applicability (or utility).[343] Most patent laws also require the inventor or inventors to be identified.[344]

Novelty refers to the "newness" of an established invention or when there is no prior art.[345] Prior art pertains to "the existing knowledge base before the invention was discovered or before the invention was disclosed by filing a patent application."[346] On the other hand, "[n]on-obviousness refers to the presence of an inventive step,"[347] which requires that an invention "must not have been obvious at the time of its creation to anyone having 'ordinary skill in the art.'"[348] Finally, "[i]ndustrial applicability, or utility, refers to the existence of a potential market for patented knowledge"[349] —

337. Intellectual Property Code of the Philippines.

338. *Id.* § 241.

339. *Id.* § 2.

340. *Id.*

341. *Id.*

342. *Id.*

343. World Intellectual Property Organization (WIPO), Understanding Industrial Property, *available at* http://www.wipo.int/freepublications/en/intproperty/895/wipo_pub_895.pdf (last accessed May 28, 2012).

344. WHO Traditional Medicines, *supra* note 325.

345. Intellectual Property Code of the Philippines, § 23.

346. HANSEN, *supra* note 26, at 9. *See also* Intellectual Property Code of the Philippines, § 24.

347. HANSEN, *supra* note 26, at 9.

348. *Id.*

349. *Id.*

meaning it can be "produced and used in any industry."[350] Moreover, "[t]o meet this requirement, a public desire for the patented material must exist or [has] the potential to exist."[351]

In the case of traditional medicines, "knowledge about the preparation is usually transferred from one generation to another; generally, no new chemical entities have been developed, and the processes used during their preparation are well-known."[352] It has thus been opined that "neither the product nor the process is considered novel, and no patents can be obtained. In addition, often it may not be possible to identify the actual inventor."[353] While the concept of "joint inventors" exists in most intellectual property laws, each of the inventors who want to claim joint ownership must show that they contributed to the inventive thought and to the final result.[354] Showing this may be difficult for traditional healers and communities.[355]

Moreover, if an indigenous group desires to obtain a patent, it has to demonstrate that the invention is novel.[356] This seems incompatible with their practice of sharing their knowledge.[357] Apart from this, certain hurdles must also be overcome to acquire a patent.[358] For instance, a patent must be written in scientific-legal language, requiring the services of a lawyer, which together with the costs of filing for a patent, would be too expensive for indigenous communities.[359] Finally, even if these communities have successfully obtained a patent, the second step would be maintaining the patent and enforcing it against infringement. In particular, a patent only has a term of 20 years from the filing date of the application,[360] and fees will still have to be paid to maintain the patent.[361] This would once again require expensive legal action. Should a case go to court, an infringing company with more financial resources would have an advantage.[362]

C. Criticisms

350. Intellectual Property Code of the Philippines, § 27.

351. HANSEN, *supra* note 26, at 9.

352. WHO Traditional Medicines, *supra* note 325.

353. *Id.*

354. *Id.*

355. *Id.*

356. *Id.*

357. *Id.*

358. WHO Traditional Medicines, *supra* note 325.

359. *Id.*

360. Intellectual Property Code of the Philippines, § 53.

361. *See* Intellectual Property Code of the Philippines, § 55.

362. WHO Traditional Medicines, *supra* note 325.

Philippine law provides for measures to protect indigenous communities against biopiracy by allowing bio-prospecting only through PIC and compliance with regulations. However, the aforementioned is still inadequate because first of all, there is no workable definition of biopiracy and specific acts which constitute it. The law only defines "bio-prospecting" or the "research, collection[,] and utilization of biological and genetic resources for purposes of applying the knowledge derived therefrom solely for commercial purposes,"[363] which can only be done with PIC from the indigenous communities. Would it thus be safe to infer that the research, collection and utilization of genetic resources without PIC constitutes biopiracy, which is a violation of the Wildlife Resources Act, making a person liable under such? What if a person is able to secure PIC but fails to give just compensation? What if a person visits a community, is able to obtain traditional knowledge from observation, but does not "research, collect, *and* utilize genetic resources," i.e., he is able to obtain the knowledge *without* physically taking the genetic resources? If such person utilizes the traditional knowledge, would this still fall under biopiracy or bio-prospecting? How exactly would a person or a corporation be held accountable? Thus, there are a number of unanswered questions, which clearly show that there are gaps in the law that need to be addressed.

Secondly, the guidelines that will constitute PIC need to be re-examined, given that there are aspects that have not yet been defined, such as identifying representatives of communities and assessing their representation power and capacity, as well as all the parties affected by the project and its implications. Indigenous communities should be able to understand that PIC does not mean automatically agreeing to terms and conditions proposed by applicants. According to the Indigenous and Tribal Peoples Convention, PIC means that indigenous and tribal peoples should be "consulted on issues that affect them. It also requires that they be able to engage in *free and informed* participation in policy and development processes that affect them, in a way adapted to their cultures and characteristics."[364]

Furthermore, the guidelines include the requirement of a research proposal on the part of the company seeking to engage in bio-prospecting. This necessarily involves disclosure of what may be sensitive information or trade secrets that may be detrimental to its intellectual property rights.[365]

363. Wildlife Resources Conservation and Protection Act, § 5 (a).

364. United Nations Department of Economic and Social Affairs, *International Workshop on Free, Prior and Informed Consent and Indigenous Peoples*, PFII/2005/WS.2/4 (Jan. 17-19, 1995).

365. *See* James E. Sawit, Biological Prospecting: Philippine Legislation Governing Access and Benefit-Sharing of Biological and Genetic Resources (2007) (unpublished J.D. thesis, Ateneo de Manila University) (on file with the Ateneo Professional Schools Library, Ateneo de Manila University).

This may result in less companies investing in bio-prospecting in the Philippines, the potential benefit sharing of which would have reaped positive results for indigenous communities. On the other hand, disclosure of requirements may also prove to be beneficial in terms of monitoring the applicant's activities to ensure that procedures for bio-prospecting are strictly complied with.

Moreover, bio-prospecting in the Joint Guidelines is defined as "the research, collection[,] and utilization of biological and genetic resources for purposes of applying the knowledge derived therefrom *solely* for commercial purposes."[366] This wording can be easily circumvented by the incorporation of an "academic research" use for the biological and genetic resources, even if profits will eventually be derived from the bio-prospecting activity.[367] Aside from this, although the law defines bio-prospecting as "the research, collection[,] and utilization of biological and genetic resources for purposes of applying the knowledge derived therefrom solely for commercial purposes;"[368] it provides that a Filipino student who does bio-prospecting research must pay a bio-prospecting fee of 3% of the assessed amount and that if he eventually enters into agreements that involve commercial interests, he will have to pay the balance of 97%.[369] However, the Guidelines do not mention anything on foreigner students or those who engage in bio-prospecting for academic purposes. Thus, the phrase "solely for commercial purposes" seems to be problematic.

There is also the issue of "just compensation." Although there is no standard yet of just compensation for the taking and use of traditional medicine, the Supreme Court has had occasion to define it in line with expropriation — "the full and fair equivalent of the property taken from its owner by the expropriator."[370] If related to indigenous people and the concept of equity, it can be said that just compensation contemplates an equal replacement for the traditional knowledge and genetic resources taken. From the indigenous community's point of view, however, there can be no true equivalent to the areas on which they have based their cultural and social integrity.[371] This poses the question of how exactly just compensation can be determined.

366. Joint Guidelines, § 5 (emphasis supplied).

367. *See* Sawit, *supra* note 365.

368. Joint Guidelines, § 5.

369. *Id.* § 15.4.

370. Association of Small Landowners v. Secretary of Agrarian Reform, 175 SCRA 343, 378 (1989).

371. *See* Dominique P. Gallego, Indigenous Peoples: The Right to Compensation Sui Generis for Ancestral Territories Taken (1998) (unpublished J.D. thesis,

Finally, although TAMA and IPRA recognize that indigenous communities have IPRs over their traditional knowledge and resources, these rights are not clearly defined when juxtaposed against the Intellectual Property Code. The type of IPRs where traditional knowledge and resources are categorized remains ambiguous and open to interpretation. A deeper analysis also shows that they do not seem to fit into a particular regime in the existing intellectual property system, showing the need for a *sui generis* or particular type of system of protection that will specifically cover traditional knowledge and genetic resources.

IV. RESOLVING THE RELATIONSHIP BETWEEN CBD AND TRIPS: AN ANALYSIS

In retrospect, "[t]he TRIPS and the CBD attempt to strike a balance among the interests of nations within the global economic community"[372] — focusing on environmental conservation but also providing an incentive for research and development. Still, "it seems that these international agreements divide as much as they unite."[373] This can be gleaned from the debates between developing and developed countries with regard to genetic resources.[374]

Article 16.5 of the CBD provides that the

> Contracting Parties, recognizing that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard subject to national legislation and international law in order to ensure that such rights are supportive of and do not run counter to its objectives.[375]

The phrase "subject to national legislation and international law" suggests that the cooperative arrangements between Convention parties are subject to the TRIPS, which is part of international law. This raises the question of which system is to prevail should a conflict arise.

The debate at the WTO Committee on Trade and Environment (CTE) and TRIPS Council resulted in three approaches to the relation between TRIPS and the CBD.

Ateneo de Manila University) (on file with the Ateneo Professional Schools Library, Ateneo de Manila University).

372. Jonathan Carr, *Agreements that Divide: TRIPS vs. CBD and Proposals for Mandatory Disclosure of Source and Origin of Genetic Resources in Patent Applications*, 18 J. TRANSNAT'L. L. & POL'Y. 131, 152 (2008).

373. *Id.*

374. *See* Carr, *supra* note 372.

375. CBD, *supra* note 34, art. 16.5.

(a) The first, which was defended by some developing countries during the initial WTO discussions, is to argue that the CBD and TRIPS are essentially incompatible, given that the former recognizes the sovereign rights of its Contracting Parties over their own genetic resources, while the latter provides for the possibility of private rights or patents over the same resources.

(b) The second, which reflects the views of some developed countries, including the U.S., is that there is no conflict between TRIPS and the CBD and therefore no need for harmonization.

(c) Finally, a third approach considers that while TRIPS and the CBD are not inherently incompatible, they are likely to conflict in the way they are implemented, which demands some modifications ... of TRIPS to incorporate some of the elements of the CBD.[376]

Because of this, it is necessary to come up with legal measures in order to harmonize the two treaties and fully implement them. In the context of multilateral negotiations and the search for the best and most practical solution, the first two approaches do not seem to offer the best solution to give effect to both agreements.[377] However, the third approach seems to be shared by an increasing number of developing and developed countries at the TRIPS Council today.[378]

In order to determine whether the TRIPS and CBD are indeed inconsistent, and whether or not there is a need to reconcile them, it would be helpful to analyze each view.

A. Analysis of the Three Views on CBD-TRIPS Relationship

1. First View: The CBD and TRIPS are in Conflict and Cannot be Reconciled

Some communities argue that the TRIPS and CBD are conflicting, such that they cannot be reconciled. This is rooted in the idea that the CBD is against biopiracy, while the TRIPS facilitates it. "No to patenting of life" is a battle cry of the resistance movements against the rapid development of biotechnology, which agreements like the TRIPS have promoted.[379] According to the TRIPS opponents, the said Agreement promotes a Western and highly individualized intellectual property rights regime on all

376. Francisco Cannabrava, TRIPS and the CBD: What Language for the Ministerial Declaration?, *available at* http://www.iprsonline.org/ictsd/docs/CannabravaBridgesYear5N8Oct2001.pdf (last accessed May 28, 2012).

377. *Id.*

378. *Id.*

379. Tauli-Corpuz, *supra* note 53, at 334.

countries, increasing biopiracy in the developing world and in indigenous peoples' communities.[380]

There are indigenous communities that value the very secrecy of medical traditions,[381] believing that only the shaman can use a certain medicine and only for his people in a long-established ritual.[382] Some people believe that it is sacrilegious to share that knowledge with the outside world.[383] There are also communities that believe that patenting products based on traditional knowledge shows a lack of respect for indigenous communities and the centuries of work that went into developing such products.[384]

However, the problem with this view is that it fails to acknowledge the reality that today's world is rapidly developing in terms of biotechnology, which TRIPS acknowledges. Multinational and pharmaceutical companies are constantly finding new sources of medicine and developing ways to enhance them. For a long time, "[b]iotechnology has [ ] produced arguably beneficial agricultural developments, and it may eventually prove to have an important role in the sustainable use of resources."[385] In fact, commentators believe that disallowing patents to issue on biotechnologies may decrease research and development efforts.[386] On the other hand, the continued availability of patent protection may encourage innovation and product development, yielding concomitant social benefits.[387]

Furthermore, a closer look at the CBD also shows that the said Treaty does not explicitly prohibit patenting. Neither does the TRIPS require patenting of all life forms. Article 27 (2) of TRIPS states that "members may

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380. *Id.*

381. Kohls, *supra* note 42, at 113 (citing Shubha Ghosh, *Traditional Knowledge, Patents, and the New Mercantilism (Part II)*, 85 J. PAT. & TRADEMARK OFF. SOC'Y. 885, 889 (2003)).

382. *Id.* (citing Nancy Kremers, *Speaking with a Forked Tongue in the Global Debate on Traditional Knowledge and Genetic Resources: Are U.S. Intellectual Property Law and Policy Really Aimed at Meaningful Protection for Native American Cultures?*, 15 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 1, 24 (2004)).

383. *Id.* (citing Kewanee v. Bicron, 416 U.S. 470, 476 (1974)).

384. *Id.*

385. Yvonne Cripps, *Symposium: Sustainable Development, Agriculture, and the Challenge of Genetically Modified Organisms*, 9 IND. J. GLOBAL LEGAL STUD. 119, 119.

386. *See generally* CRS Report for Congress, An Examination of Issues Surrounding Biotechnology Patenting and its Effect Upon Entrepreneurial Companies, *available at* http://www.ipmall.info/hosted_resources/crs/RL30648.PDF (last accessed May 28, 2012).

387. *Id.*

exclude from patentability inventions which may be a threat to ordre public or morality, including protecting human, animal[,] or plant life or health."[388] In making use of Article 27, members will need to bear in mind their general obligation under Article 8 of CBD to adopt measures that are "consistent with the provisions of this Agreement."[389] In other words, what TRIPS seeks to do is to establish a global protection for intellectual property rights — not to rob developing countries from their biodiversity.[390] Patenting does not automatically result in the exploitation of developing countries' genetic resources and traditional knowledge, as long as PIC is obtained and benefits are equitably shared.

Aside from this, states must also strive to give effect to both the CBD and TRIPS, especially those which are signatories to both. Under the VCLT, States must abide by their treaty obligations in accordance with the principle of *pacta sunt servanda*, which provides that "every treaty in force is binding upon the parties to it and must be performed by them in good faith."[391] Moreover, the VCLT also provides that a State is "obliged to refrain from acts which would defeat the object and purpose of a treaty"[392] when it has signed the treaty[393] or "expressed its consent to be bound by the treaty, pending the entry into force of the treaty."[394]

Thus, the first view, being both impractical and not in consonance with international law, should not be subscribed to.

2. Second View: The Status Quo Should be Maintained Because Biopiracy Does Not Exist

Most developed countries, particularly the U.S., argue that no change is required to the TRIPS to accommodate the implementation of the CBD, and that implementation of each should be pursued in separate frameworks.[395] According to them, the TRIPS is supportive of measures that would implement the obligations of the CBD. For instance,

388. TRIPS, *supra* note 102, arts. 27 (2).

389. *Id.* art. 8 (1). *See also* Ragnar, *supra* note 54, at 19.

390. Ragnar, *supra* note 54, at 45.

391. Vienna Convention on the Law of Treaties art. 26, May 23, 1969, 1155 U.N.T.S. 331.

392. *Id.* art. 18.

393. *Id.* art. 18 (a).

394. *Id.* art. 18 (b).

395. Council for Trade-Related Aspects of Intellectual Property Rights, *The Relationship Between the TRIPS Agreement and the Convention on Biodiversity and the Protection of Traditional Knowledge — Summary of Issues and Points Made*, IP/C/W/368/Rev.1 (Feb. 8, 2006).

> patents can be instrumental in the sharing of benefits and the conservation of biological diversity based on voluntary contracts; the requirements of the patent system material to patentability and inventorship can help prevent bad patents; the control over production and distribution given to patent owners and their licensees can facilitate the sharing of technology, and the protection of undisclosed information could help the implementation of bio-safety and benefit-sharing rules. Benefit sharing provisions of the CBD can also be implemented through governmental fund-granting activities and the financial mechanism provided for under Articles 20 and 21 of the CBD.[396]

A more extreme view even states that "allegations of biopiracy are so thoroughly riddled with inconsistencies and outright lies that the entire genre, pending further clarification, must be consigned to the realm of 'rural legend.'"[397]

In order to understand where these advocates are coming from, it would be helpful to define the effect of a patent. A patent grants a right of exclusion, allowing the holder to exclude others from profiting from their invention for the limited timeframe of their patent.[398] Consequently, there is nothing in a patent that would limit an indigenous community from continuing to use and benefit from the particular genetic resource as they always have.[399]

Some legal scholars of the WTO also argue that for something to be patentable under the TRIPS, it must be an invention.[400] This means that the patenting of biological material in its natural state, so-called "biopiracy," is inconsistent with the principles of the TRIPS.[401] Thus, it could be argued that the TRIPS does not promote biopiracy. For example,

> in cases of alleged biopiracy, if prior art[402] can be demonstrated, then there can be no patent claim on the given invention as it is not novel. Likewise, if a patent is filed on something simply 'discovered' in nature, it also will not be granted, as it lacks an inventive step. ... Further, those advocating this position argue that if there ever were a patent erroneously issued, then

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396. *Id.*

397. Hamilton, *supra* note 56, at 159.

398. *Id.* at 169.

399. *Id.*

400. *Id.*

401. *Id.* (citing World Trade Organization (WTO). 2001. WTO Policy Issues for Parliamentarians: A Guide to Current Trade Issues for Legislators. Geneva: WTO: 25).

402. *See* Intellectual Property Code of the Philippines, § 24. *See also* U.S. Legal, Prior Art Law and Legal Definition, *available at* http://definitions.uslegal.com/p/prior-art/ (last accessed May 28, 2012).

> the system would correct itself if presented with the justification to do so (e.g. demonstration of prior art, obviousness, etc.).[403]

If biopiracy is to be viewed strictly and narrowly as an IPR issue, then the above argument on its non-existence and the sufficiency of the current legal system seems to be tenable.[404] On the other hand, if biopiracy is seen to be a broader concern, the above "solution" is unsatisfactory.[405]

Based on the discussion in the first and second parts of this Note on biopiracy and the CBD-TRIPS relationship, it can be clearly seen that biopiracy is not just a simple IPR issue but a broad concern that has been highly debated upon and must be examined in order to be addressed. A look at the current IPR system will show that the TRIPS by itself is insufficient to address the particular concerns of indigenous people. One cannot assume that everyone has equal access to the corrective mechanisms in the IPR system.[406] The reality is that patent challenges cost a substantial amount of money, can extend over several years and require specialist knowledge of the patent system.[407] It also does not address a scenario where the exploitation of given plant resources would create a scarcity of said resources and would limit one's ability to use it.[408]

Under the law, indigenous communities are given a right to the protection and preservation of their culture, which includes traditional knowledge in relation to genetic resources. As earlier expounded on, there are recorded cases of traditional medicines that have been developed for decades and patented by large companies, which have claimed it as their own. This explains why in some cases,[409] after showing proof of ownership, patent offices have ruled in favor of the indigenous communities. However, the only reason why such claims were allowed was because these communities were able to prove their ownership of such through the existence of local mechanisms such as a traditional knowledge database that contained a documentation of such knowledge, as well as their own national laws against biopiracy. What about other developing countries or indigenous communities that do not have such systems in place? Is it sufficient to simply rely on the CBD and the TRIPS as they are currently worded, given that countries can domestically legislate against biopiracy anyway?

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403. Hamilton, *supra* note 56, at 169.

404. *Id.*

405. *Id.*

406. *Id.*

407. *Id.*

408. *Id.*

409. *See* discussion on Biopiracy Cases in this Note.

The Author of this Note would answer in the negative. Biopiracy has become a global issue,[410] which necessitates the need not only for strong laws domestically but also internationally. In fact, those against biopiracy argue that established patent systems, especially in the U.S., are

> remiss in the way that they handle claims to prior art that come from sources that are not readily accessible to their patent examiners. Concerns about what would 'count' as prior art in the new, more globally oriented, patent regime are central to international political dialogues on the issue, and also to the biopiracy campaigners. Fears about the scope of prior art considered by examiners were aired as part of the review of [the TRIPS].[411]

Given these realities, it would be impractical to argue that the *status quo* be maintained and that biopiracy does not exist.

3. Third View: CBD and TRIPS Not Inherently Incompatible But Must Be Harmonized

When a conflict exists between two treaties dealing with the *same subject matter*, the applicable rule, as provided for by Article 30 of the VCLT, is that the latter law prevails over the first.[412] However, there is *no* common view that the TRIPS and CBD are dealing with the *same* matter.[413] If there was one, the VCLT could be applied and the problem would be solved. This would mean that in a future case of biopiracy, the court could decide that the two treaties deal with the same matter and applying the VCLT, would choose TRIPS as the applicable convention, since it comes later.

However, a review of both treaties shows that they deal with different issues. The CBD deals with the protection of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the utilization of genetic resources. TRIPS, on the other hand, deals with the protection of intellectual property. Despite the difference in subject matter, the two conventions tend to interrelate in some areas. Sandrine Maljean-Dubois, Director of the Center of International and European Studies (CERIC),[414] defines the controversial relationship between these two international instruments as an "apparent conflict" rather than an incompatibility and posits that a relationship of complementarity has yet to

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410. *See* Ikechi Mgbeoji, Global Biopiracy, *available at* http://www.ubcpress.ca/books/pdf/chapters/mgbeoji.pdf (last accessed May 28, 2012).

411. Hamilton, *supra* note 56, at 169.

412. Curci, *supra* note 13, at 14.

413. *Id.*

414. Hart Publishing, Oxford, The Transformation of International Environmental Law, *available at* http://www.hartpublishingusa.com/books/details.asp?isbn=9781849462594 (last accessed May 28, 2012).

develop.[415] In fact, Article 16 of the CBD recognizes that "patents and other IPRs may have an influence on the implementation"[416] of its provisions and parties to the convention must ensure that IPRs are "supportive of and do not run counter to its (CBD's) objectives."[417] Although this provision is "subject to national legislation and international law"[418] which creates a seeming ambiguity over what should prevail, whether national or international legislation, the provision is strengthened by Article 22, which provides that the CBD "shall not affect the rights and obligations of any Contracting Party deriving from any existing international agreement, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity."[419] Both articles, when read together, "provide a strong case for CBD to prevail over the obligations under any other agreement."[420]

The effectiveness of Article 22 of the CBD would depend upon interpretation of the phrase "serious damage or threat to biological diversity."[421] Developed states may justify non-compliance with the CBD given that more often than not, the adverse impacts of biodiversity are in the nature of "possible effects" and not enough scientific data to substantiate the same may be present.[422] However, this lack of scientific certainty can be countered by the precautionary approach, which states that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to prevent environment degradation."[423]

The CBD also states that its provisions will not affect rights and obligations of countries to other "existing international agreements, except where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity."[424] Given that the TRIPS is also an international agreement, then it must be implemented together with the

415. Curci, *supra* note 13, at 14.

416. CBD, *supra* note 34, art. 16 (5).

417. *Id.*

418. *Id.*

419. *Id.* art. 22.

420. Ashish Kothari & R. V. Anuradha, *Biodiversity, Intellectual Property Rights, and GATT Agreement: How to Address the Conflicts?*, *in* ECONOMIC AND POLITICAL WEEKLY 2819 (1997).

421. *Id.*

422. *Id.*

423. *Id.*

424. *Id.*

CBD, the only exception being if the rights and obligations under the TRIPS would damage or threaten biological diversity.

However, as it stands, there is nothing in the TRIPS that would show rights and obligations that would damage or threaten biological diversity. In fact, the objectives of both the TRIPS and CBD, which are expressed in Articles 7 and 10 of such laws respectively, contain a number of common elements. The "fair and equitable sharing of the benefits arising out of the utilization of genetic resources"[425] of the CBD, for instance, is compatible with the TRIPS' objectives of "balance of rights and obligations"[426] and "mutual advantage of producers and users of technological knowledge."[427] In the CBD, mention is also made on the "transfer of relevant technologies,"[428] which is in line with the TRIPS' objective of "transfer and dissemination of technology."[429] In this sense, the CBD and TRIPS interact in a complementary manner. Thus, it is possible to resolve the relationship between the two laws. For instance, while most members are required to implement the provisions of the TRIPS,[430] more extensive protection and enforcement of intellectual property rights are not precluded.

> Therefore, the absence of, for example, any mention of traditional knowledge does not disallow a member from enacting legislation to protect such a category of knowledge. For instance, Kenya passed an Industrial Property Bill in 1989 that allows petty patents relating to traditional medicinal knowledge, i.e., for 'herbal as well as nutritional formulations which give new effects.'[431]

However, "other WTO members are not required to recognize rights in other countries that go beyond the minimum standards established by the TRIPS."[432]

The CBD also recognizes IPRs, stating that "[i]n the case of technology subject to patents and other intellectual property rights, such access and transfer shall be provided on terms which recognize and are consistent with the adequate and effective protection of [IPRs]."[433] Furthermore, Article 19 (2) provides that the parties must "take all practicable measures to promote and advance priority access on a fair and equitable basis by Contracting

425. CBD, *supra* note 34, art. 1.

426. TRIPS, *supra* note 102, art. 7.

427. *Id.*

428. CBD, *supra* note 34, art. 1.

429. TRIPS, *supra* note 102, art. 7.

430. *See* TRIPS, *supra* note 102, art. 1.

431. DUTFIELD, *supra* note 165, at 18-19.

432. *Id.* at 19.

433. CBD, *supra* note 34, art 16 (2).

parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Contracting parties. Such access shall be on mutually agreed terms."[434]

The problem, however, lies in the clashing of the different parties' views and interests, which has resulted in the worldwide debate against biopiracy. Even if the two laws deal with different subject matters, have similar objectives, and do not preclude the implementation of one over the other, the fact is that the provisions of the CBD and TRIPS are couched in very general terms. Being general, there can be differences in the manner of interpretation and implementation, which is where the conflict arises.

Thus, the third view, which espouses that the CBD and TRIPS are not inherently incompatible but must be harmonized, is clearly the best approach to resolving the relationship between the two treaties. As discussed above, it is not sufficient to simply rely on the current intellectual property rights system nor on national laws, given that biopiracy, regardless of whether it is believed to exist or not, is an issue that affects both developed and developing countries. It must be addressed not just on the domestic level, but internationally as well. Thus, it is necessary to identify a legal framework that will strengthen the relationship between the CBD and TRIPS and in the process, protect traditional knowledge and genetic resources.

B. Prior Informed Consent and Benefit-Sharing Insufficient

It may be argued that benefit-sharing, as embodied in the CBD, is sufficient to resolve the relationship between the CBD and TRIPS and protect traditional knowledge and genetic resources. For instance, one can simply say that a pharmaceutical company can apply for a patent in accordance with the TRIPS, but be sure to obtain PIC and equitably share its benefits with the indigenous community where it originated, in accordance with the CBD.

Nonetheless, a reading of the CBD and TRIPS would show that the above view is insufficient. There are "challenges associated with defining what the benefits are, who should distribute them, how these should be distributed, and who precisely should be the recipients."[435] For instance, in the previously discussed Neem case in India, if the Neem

> is widely used in India and elsewhere as a fungicide, the issue of benefit-sharing would take on unmanageable proportions. In particular, how would one begin to establish who should be the recipient of the benefits in a case where the knowledge that is being exploited could legitimately be said to derive from the practice of millions of people in India and elsewhere? In many situations this is made more complex when the

434. *Id.* art. 19 (2).

435. Hamilton, *supra* note 56, at 171.

> element of expectations are brought in, especially in cases of pharmaceutical bio-prospecting in remote areas, despite the fact that it is quite widely acknowledged that lucrative, blockbuster drugs very rarely result from bio-prospecting type programs. This is also often related to concerns about the fact that benefit-sharing agreements may be pegged to the commercial success of a given plant patent and thus, there is no guarantee that benefits will be forthcoming.[436]

Another point often raised "relates to the substance of the material remunerations included in benefit-sharing agreements."[437] Some claim that this remuneration involves sharing only the "crumbs" of the benefits.[438] Consequently, even if indigenous people understand the opportunities available from their possession of traditional knowledge, "the overwhelming power, expertise and skills of pharmaceutical companies and Governments (overseas and host countries) are generally sufficient to convince indigenous people to cooperate on their terms."[439]

Once again, this bolsters the need for a legal framework that will provide a clearer picture of the CBD-TRIPS relationship and combat biopiracy.

C. Protecting Traditional Knowledge

Indigenous peoples claim that the existing intellectual property protection schemes do not address the piracy of their traditional knowledge.[440] By definition,[441] traditional knowledge does not fall within the subject matter protected under either patent law, copyright law, or trademark law.[442] Recently, there have been several discussions "on the viability of extending current intellectual property rights protection systems to traditional knowledge."[443] In 1998 and 1999, the WIPO conducted nine fact-finding missions on the intellectual property needs and expectations of holders of traditional knowledge"[444] and subsequently "compiled a (recent) report that

436. *Id.*

437. *Id.*

438. *Id.*

439. Mathur, *supra* note 98, at 4476.

440. Núñez, *supra* note 129, at 490.

441. *See* HANSEN, *supra* note 26, at 3. *See also* WIPO, Intellectual Property Needs and Expectations of Traditional Knowledge Holders (WIPO Report on Fact-Finding Missions on Intellectual Property and Traditional Knowledge), *available at* http://www.wipo.int/tk/en/tk/ffm/report/final/pdf/part1.pdf (last accessed May 28, 2012) [hereinafter WIPO, Intellectual Property Needs].

442. Miriam Latorre Quinn, *Protection for Indigenous Knowledge: An International Law Analysis*, 14 ST. THOMAS L. REV. 287, 290 (2001).

443. *Id.* at 293.

444. *Id.*

evaluated and contrasted intellectual property system objectives with its limitations."[445]

According to the WIPO report, the main purpose of a patent protection system is to encourage innovation and promote knowledge.[446] Traditional knowledge, however, is shared and transmitted throughout the culture for non-commercial uses.[447] This knowledge may be "sacred" and shared to empower the local community.[448] Secondly, inventions protected by patent law must be new, non-obvious, and useful.[449]Although it may be said that indigenous knowledge is an invention, it may not meet the level of novelty needed for patent protection because it is passed down from one generation to another.[450] Patents only apply to "new" knowledge and are not useful for protecting traditional or "old" knowledge.[451] In addition to this, "patents are limited in duration and are vested on 'inventors.' This 'inventor' is rewarded with an exclusive right for a limited time."[452] This poses a problem because it is difficult to determine the true "inventor" or owner of a patent on traditional knowledge since such knowledge is communally held.[453]

Other intellectual property rights systems are likewise inadequate to protect traditional knowledge. For instance, copyrights are limited to the protection of the *expression* of an idea, but not the idea itself.[454] They can prevent unauthorized copying of a text containing information about traditional medicine, but they cannot prevent the use of the knowledge disclosed in that text.[455] Copyrights are also normally assigned to individuals rather than groups, which runs counter to the nature of traditional medicine.[456]

Similarly, trademarks, which protect a suppliers' reputation or goodwill, could probably be used by communities to distinguish their products as authentic or coming from such communities.[457] However, these

445. *Id.* at 293-94.

446. *Id.*

447. *Id.*

448. Quinn, *supra* note 442, at 293-94.

449. *Id.* at 294.

450. *Id.*

451. *Id.*

452. *Id.*

453. *Id.*

454. WHO Traditional Medicines, *supra* note 325.

455. *Id.*

456. *Id.*

457. *Id.*

communities may lack the resources to promote their trademark to make it widely known, and, such trademarks still cannot be used to prevent copying of the product itself by third parties, nor can they be used to prevent using a product as a basis for further inventions.[458]

Finally, there are geographical indications, which refer to the use of the name of a place or region to describe a product, usually identifying both the product's origin and its characteristics.[459] Examples are Scotch Whisky and Bordeaux Wines.[460] However, "like trademarks and copyrights, geographical indications do not protect the knowledge or know-how per se, nor can they prevent others from imitating the product — they can only protect against unjustified claims that the product originates from a certain geographical area."[461]

Thus, there is a need to come up with a new kind of system that will protect traditional knowledge without exploiting the rights of indigenous people. It is true "that the protection of traditional knowledge serves the greater good because traditional knowledge holders will continue to innovate and [ ] there is a strong link to the preservation of the environment, both physical and cultural."[462] Furthermore, "[a]ccording to author Rosemary Coombe, 'intellectual property rights are not merely technical matters.'"[463] They involve "crucial questions concerning not only economic questions but also the environment, food security, ethics[,] and international human rights issues."[464] It is thus important "to use intellectual property to reduce poverty and to balance unfair situations. National and international recognition of traditional knowledge is essential for developing countries,"[465] especially those with extensive biodiversity.[466]

On the international level, this system can be done through an instrument that will be binding on parties to the TRIPS, mostly composed of the global north, which is interested in patenting traditional knowledge and genetic resources. Some countries suggest an amendment to the

458. *Id.*

459. *Id.*

460. WHO Traditional Medicines, *supra* note 325.

461. *Id.*

462. J. Janewa Oseitutu, *A Sui Generis Regime for Traditional Knowledge: The Cultural Divide in Intellectual Property Law*, 15 MARQ. INTELL. PROP. L. REV. 147, 186 (2011).

463. Núñez , *supra* note 129, at 491.

464. *Id.*

465. *Id.*

466. *Id.*

TRIPS[467] that will require patent applicants to disclose the source or origin of genetic resources and traditional knowledge that they use, the fact that PIC has been obtained, and that there will be benefit-sharing. On the other hand, Bolivia, in March 2010, proposed to amend TRIPS in order to ban the patenting of all life forms,[468] given that patenting is "immoral, violates the beliefs and values that indigenous people hold sacred, overturns farmers' traditional rights to seeds, extends capitalism and concentrates the domination of a handful of rich-country multinational corporations, stifles research and development, jeopardizes food security[,] and undermines humankind's ability to respond to climate change."[469]

However, as earlier mentioned, the patenting of genetic resources is a reality that is not only legally allowed by TRIPS and bio-prospecting laws, but also contributes to the rapid development of biotechnology, which in turn, has economic, health, and social benefits. Thus, a better solution would be to come up with a *WTO Decision Amending the TRIPS* which will, in effect, bind parties to the TRIPS and strengthen the goal of protecting traditional knowledge in relation to genetic resources.

On the local level, there are is also a need to reassess the current law so as to put more teeth against misappropriation, protect indigenous people, and conserve Philippine biodiversity.

V. THE DEVELOPMENT OF A *SUI GENERIS* SYSTEM FOR THE PROTECTION OF TRADITIONAL KNOWLEDGE AND GENETIC RESOURCES

The World Health Organization (WHO) points out that the protection of traditional medicine

> requires a different system from the current agreement on intellectual property rights which is driven by commercial short-term rewards, such as patents and monopoly rights for the innovator, with the ultimate aim of benefit to the society. Indigenous knowledge requires a different model. It

467. Center on Law and Globalization, When is Lawmaking Maximized and Effective in International Courts?, *available at* http://clg.portalxm.com/library/keytext.cfm?keytext_id=91 (last accessed May 28, 2012).

468. International Centre for Trade and Sustainable Development (ICTSD), TRIPS Council: Members Debate Biodiversity, Access to Medicine, *available at* http://ictsd.org/i/news/bridgesweekly/102136/ (last accessed May 28, 2012).

469. WTO, Nagoya Gives New Context to Old Views in Intellectual Property Council, *available at* http://www.wto.org/english/news_e/news11_e/trip_01mar11_e.htm (last accessed May 28, 2012).

> has developed gradually and has no innovator and is owned by the community and should be freely available.[470]

Thus, some experts have suggested that a *sui generis* system separate from the existing intellectual property rights system should be designed to protect knowledge, innovations, and practices associated with biological resources. The system of rights can be drawn from the existing patent protection laws, proposed Human Rights Principles and Guidelines, WIPO's fact-finding missions,[471] customary principles, and indigenous knowledge characteristics in order for protection to be comprehensive and useful. The reason behind the proposal for "an intellectual property type protection for traditional knowledge is that if the developed countries can protect their intangible goods, commercialize them[,] and benefit economically, developing countries should also be entitled to the same treatment for their intangible goods."[472]

The question, however, is whether extending *sui generis* rights or a new kind of intellectual property rights to traditional knowledge is really the best solution to remedy the problem. Janewa Oseitutu, in a recently published journal article, rejects the idea of a *sui generis* system.[473] It seems then that for Oseitutu, the existing intellectual property system that allows patenting of traditional knowledge and genetic resources is not the problem *per se*, but the need for equality between traditional knowledge holders and those who seek to utilize this knowledge. He further posits that

> [t]raditional knowledge has been characterized as representing intangible developing country goods while intellectual property protects intangible developed country goods.[474]
>
> ...
>
> [I]t should be possible to have an international intellectual property system that does not enable sophisticated, complex users of intellectual property laws to take advantage of indigenous and local communities or others who could be considered to be in a position of relative disadvantage. This objective should be feasible without creating new intangible property rights. Instead of creating more intellectual property rights, it may be more effective to take an instrumentalist approach to intellectual property — one that aims to attain certain social goods. Among these could be a more

470. WHO, WHO Strategy for Traditional Medicine 2002-2005, *available at* http://www.searo.who.int/LinkFiles/RC_55_13.pdf (last accessed May 28, 2012).

471. Oseitutu, *supra* note 462, at 172.

472. *Id.* at 185.

473. *See generally* Oseitutu, *supra* note 462.

474. *Id.* at 185.

> equitable human development-oriented interaction between intellectual property law and less resourced persons.[475]

The question, however, is how this "equitable human development-interaction" can be achieved. As discussed earlier in this Note, the current system of access to and benefit-sharing, although successful in some cases,[476] is still insufficient to afford protection to indigenous communities.

Thus, it can still be argued that a legal framework is needed to address the situation. It may not necessarily involve the creation of new rights, but still be a *sui generis* kind of system, taking into consideration practicality (in the light of the CBD and TRIPS) and equity.

What then would be the components of this system? To answer such, it is best to re-visit existing guidelines, proposals, and laws both on the local and international level.

The reason for this holistic approach is the fact that

> [t]raditional knowledge encompasses three dimensions: a cultural aspect (it reflects the culture and values of a community), a temporal aspect (it is passed on through the generations, and slowly adapts to respond to changing realities) and a spatial aspect (it relates to the territory or the relationship which a community has with its lands and waters traditionally occupied or used). All three of these dimensions need to be acknowledged and protected at the various levels in order for *sui generis* systems to be effective.[477]

According to the CBD Ad Hoc Working Group, local measures must be based closely on the relevant customary laws of the indigenous communities concerned and developed with their full and effective participation.[478] There may already be *sui generis* protection in place through customary law, but such measures require formal recognition by the state and support to ensure their effectiveness and continuity.[479] Additionally,

> in practice, no single overarching international, regional[,] or national *sui generis* system, however broad in scope, is likely to embrace all the characteristics and the full context of traditional knowledge in its original cultural context and its related customary law and the cultural and legal

475. *Id.* at 187.

476. *See* Ana Sittenfeld & Rodrigo Gamez, *Costa Rica*, *in* BIODIVERSITY PROSPECTING: USING GENETIC RESOURCES FOR SUSTAINABLE DEVELOPMENT 69 (1993).

477. Convention on Biological Diversity, *Ad Hoc Open Ended Inter-sessional Working Group on Article 8 (j) and Related Provisions of the Convention on Biological Diversity* ¶ 31, UNEP/CBD/WG8J/6/5 (September 9, 2009) [hereinafter CBD Ad Hoc].

478. *Id.* ¶ 30.

479. *Id.*

> diversity of the world's indigenous and local communities. It is therefore vital that *sui generis* protection be local in nature but supported by international frameworks and/or guidelines, which may establish minimal standards.[480]

On the international level, it would be helpful to look at guidelines established by the WIPO, considering that WIPO's Intergovernmental Committee on Intellectual Property, Genetic Resources, Traditional Knowledge (IGC) has been "tasked with reaching agreement on the text of an international legal instrument to protect genetic resources, traditional knowledge, and traditional cultural expressions,"[481] the text of which is to be submitted to the WIPO General Assembly by September 2011.[482]

On the local level, it would be best to look into *sui generis* systems of other countries and identify the pertinent features of these systems using the guidelines drafted by the CBD Ad Hoc Working Group[483] as a framework. Specifically, these guidelines outline the elements of a *sui generis* system, which has also been incorporated into some domestic laws. An understanding of these elements will also help to determine which features can be adopted into the Philippine setting.

A. International Level: WIPO Guidelines for a Sui Generis System

The WIPO is one of the specialized agencies of the UN system of organizations. The WIPO's mandate is the promotion of the protection of intellectual property throughout the world through cooperation among states and, where appropriate, in collaboration with any other international organization.[484] It has

> become actively involved in the protection of traditional knowledge. In 2000, it created the [IGC] with the mandate of discussing a) access to genetic resources and benefit sharing, b) protection of traditional knowledge, and c) protection of expressions of folklore. WIPO's work has focused on the possible development of a *sui generis* system for traditional knowledge, but no serious analysis has been made in respect of the standards for the patentability applied by the WIPO members (for example the standard applied in the [U.S.] with regard to inventions disclosed in non-written form within and outside the country), which allow the patenting of genetic resources and traditional knowledge. [485]

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480. *Id.*

481. Oseitutu, *supra* note 462, at 172.

482. *Id.*

483. *See* CBD Ad Hoc, *supra* note 477.

484. Convention Establishing the World Intellectual Property Organization art. 2 (vii), July 14, 1967 and *as amended* September 28, 1979, 828 U.N.T.S. 3.

485. Núñez , *supra* note 129, at 190-91.

1. Defining Traditional Knowledge

The WIPO has used the term "traditional knowledge" in an open-ended way to refer to "tradition-based literary, artistic[,] or scientific works; performances; inventions; scientific discoveries; designs; marks, names[,] and symbols; undisclosed information; and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary[,] or artistic fields."[486] "Tradition-based" refers to "knowledge systems, creations, innovations[,] and cultural expressions which: have generally been transmitted from generation to generation; are generally regarded as pertaining to a particular people or its territory; and are constantly evolving in response to a changing environment."[487] Though this is not a formal definition that provides a scientific or legal restrictive definition, it is a working concept of traditional knowledge that provides the elements necessary to understand its nature and scope.

According to the WIPO, a survey of existing international standards in the field of intellectual property illustrate that a precise definition of traditional knowledge is not necessarily a crucial requisite for identifying the legal elements of a mechanism for its protection. For instance, most patent laws do not precisely define the concept of an "invention" while most trademark laws do not define "signs"[488] in exhaustive terms and "generally leave it to the examining authorities and the courts to decide case-by-case whether a specific sign serves as the necessary requirements for protection."[489]

It can be concluded from the above definition that traditional knowledge associated with genetic resources and scientific inventions are two different concepts that would require a different set of rules —

> Because its generation, preservation[,] and transmission are based on cultural traditions, [traditional knowledge] is essentially culturally-oriented or culturally-biased, and it is integral to the cultural identity of the social group in which it operates and is preserved. From the point of view of the

486. WIPO, Intellectual Property Needs, *supra* note 441, at 25.

487. *Id.*

488. TRIPS, *supra* note 106, art. 15.1. This Article states that "[a]ny sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertakings, shall be capable of constituting a trademark." *Id.*

489. WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore, *Elements of a Sui Generis System for the Protection of Traditional Knowledge*, ¶ 11, WIPO/GRTKF/IC/3/8 (Mar. 29, 2002).

> culture of the community in which it has originated, every component of traditional knowledge can help to define that community's own identity.[490]

On the other hand, it is possible to have "two scientific inventions made separately by two different teams of employed inventors, with the objective of solving the same technical problem."[491] Under patent law, this can

> give rise to interference proceedings or similar legal procedures which attribute ownership to one claimant or the other. Competing patent claims to overlapping subject matter are resolved without reference to the cultural environment that gave rise to the inventions. By contrast, the cultural identity dimension of traditional knowledge may have a dramatic impact on any future legal framework for its protection, because, being a means of cultural identification, the protection of traditional knowledge, including traditional knowledge of a technical nature, ceases to be simply a matter of economics or of exclusive rights over technology as such. It acquires a human rights dimension ... for it intertwines with the issues concerning the cultural identification and dignity of traditional communities. Analogues could also be drawn with the concept of 'moral rights' in copyright law, specifically the rights of integrity and of attribution, in that it may be considered necessary to protect against culturally offensive use of [traditional knowledge] or other non-economic forms of perceived misuse of [traditional knowledge]. Specific remedies, such as additional damages, may also be stipulated in case of culturally offensive misuse of protected material.[492]

2. Considerations for the Adoption of a *Sui Generis* System

According to the WIPO, the adoption of a *sui generis* system for the protection of traditional knowledge would require the identification of certain elements that the system must contain in order to be effective. To identify these elements, "one has to provide responses to several essential questions to which any effective legal system for the protection of property rights must be able to respond satisfactorily,"[493] such as questions on: policy objective, subject matter, criteria for protection, rights and ownership of rights, acquisition of rights, administration and enforcement of rights, and expiration of rights.[494]

In developing this system, it is essential that the protection of traditional knowledge meet the objectives of empowering holders of traditional knowledge and acknowledging the distinctive nature of traditional knowledge systems, ensuring PIC and exchanges based on mutually agreed

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490. *Id.* ¶ 13.

491. *Id.* ¶ 14.

492. *Id.*

493. *Id.* ¶ 34.

494. *Id.*

terms and promoting community development and legitimate trading activities.

B. Local Level: Features of a Sui Generis System

The CBD Ad Hoc Working Group has listed the features or elements of an effective *sui generis* system for the protection of traditional knowledge in relation to genetic resources. A reading of the anti-biopiracy laws of different countries will show that some of these features have in fact been incorporated into those laws. These features and corresponding laws are enumerated below.

1. Statement of Purpose and Objectives

The basis of *sui generis* systems is the recognition that traditional knowledge in relation to resources is collective property.[495] Thus, such systems must provide safeguards against third party claims to intellectual property rights over traditional knowledge.[496] Consequently, the law's purpose and objectives must be clearly stated.

This is consistent with the CBD's objectives of promoting the wider application of traditional knowledge with the approval and involvement of indigenous communities and to encourage equitable benefit sharing.[497]

2. Community Ownership of Traditional Knowledge Associated with Biological and Genetic Resources

> *The fact that traditional knowledge is the collective property and cultural patrimony of indigenous and local communities suggests that ownership rights in traditional knowledge should be vested in communities, rather than in individuals, although individuals or specific families may be 'custodians' of the knowledge on behalf of the collective. The approach to deal with this custodial relationship should therefore be in accordance with relevant customary laws of the indigenous or local community concerned.*[498]

An example of this feature is seen in the Costa Rica "Ley de Biodiversidad" or "Biodiversity Law" passed in April 1998. Graham Dutfield calls this "perhaps the most ambitious and elaborate national law to implement the CBD to date"[499] and adds that "many of its provisions are clear attempts to reconcile the country's CBD obligations with its TRIPS ones, including the

495. CBD Ad Hoc, *supra* note 477, ¶ 23.

496. *Id.*

497. *See* CBD, *supra* note 34, art. 8 (j).

498. CBD Ad Hoc, *supra* note 477, ¶ 34.

499. DUTFIELD, *supra* note 165, at 110.

initiation of a process to develop a *sui generis* system to protect the intellectual rights of indigenous peoples and local communities."[500]

Articles 82 to 85 of the said law deal specifically with the intellectual rights of indigenous peoples and local communities, acknowledging that a final solution to this issue has not yet been reached by its initiation of an 18-month participatory process to elaborate on appropriate *sui generis* system.[501] Even so, the State already expressly recognizes and protects what is referred to as "*sui generis* community intellectual rights."[502] Under Article 82, these rights are defined as "the knowledge, practices[,] and innovations of indigenous peoples and local communities related to the use of components of biodiversity and associated knowledge"[503] which exist and are legally recognized by the mere existence of the cultural practice or knowledge related to genetic resources.[504] This does not require prior declaration, explicit recognition nor official registration, such that it can include practices which in the future acquire such status.[505]

3. Recognition of Elements of Customary Law Relevant to the Conservation and Sustainable Use of Biological Diversity

PIC, mutually agreed terms, and equitable benefit sharing are three concepts that are present in many customary law systems.[506] It is said that "[k]nowledge and resources are not *owned* as they are under existing intellectual property rights, but are held in custodianship."[507] For many communities, traditional knowledge is connected not only with rights but also with obligations.[508] For instance, the intergenerational transfer of knowledge is an important obligation for older generations, while there is an obligation on the part of the youth to be prepared to receive this knowledge.[509] In many cases, before this knowledge is passed on, the youth must earn the right to receive such.[510] Elders may hesitate to fully share their

500. *Id.*

501. *See* The Biodiversity Law of Costa Rica, No. 7788, arts. 82-85 (1998) [hereinafter Costa Rica Law].

502. *Id.* art. 82.

503. *Id.*

504. *Id.*

505. *Id.*

506. CBD Ad Hoc, *supra* note 477, ¶ 47.

507. *Id.* ¶ 48.

508. *Id.* ¶ 42.

509. *Id.*

510. *Id.*

knowledge with others, even within their own community, if they feel that the latter will not use the knowledge in a respectful way.[511]

An example of this is Brazil's law "Regulating Access to the Genetic Heritage, Protection of and Access to Associated Traditional Knowledge"[512] enacted on 23 August 2001, which provides that indigenous communities, which create, develop, hold, and preserve traditional knowledge associated to the genetic resources, are guaranteed the right to its protection, taking into consideration "customary uses by communities,"[513] which should be "preserved in all cases."[514]

4. A Process and Set of Requirements Governing PIC, Mutually Agreed Terms and Equitable Sharing of Benefits

Based on the CBD, there are two levels of prior informed consent that should be obtained — from the national government and from the local or indigenous community.[515]

Pursuant to legislation, governments play various roles in access and benefit-sharing arrangements. On the one hand, a government might be a party to a commercial agreement. On the other hand, a government might establish laws that guide the development of access and benefit-sharing arrangements but remain distant from all negotiations and transactions, leaving private institutions to enter into their own agreements consistent with law.[516] In some cases, the government plays an active role in establishing committees that will ensure the protection of biodiversity. For instance, Portugal's law "Establishing a Legal Regime of Registration, Conservation, Legal Custody and Transfer of Plant Endogenous Material"[517] created the Council of the Ministry of Agriculture, Rural Development and Fisheries on Agrarian Genetic Resources, Fisheries and Aquiculture (CoTeRGAPA). This body is in charge of giving prior authorization before traditional knowledge can be accessed by applicants.[518]

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511. *Id.*

512. Brazil Law Regulating Access to the Genetic Heritage, Protection of and Access to Associated Traditional Knowledge, Provisional Measure N.2186-16 (2001).

513. *Id.* art. 4.

514. *Id.*

515. *See* CBD, *supra* note 34, arts. 15 (5) & 8 (j).

516. KERRY T. KATE & SARAH A. LAIRD, THE COMMERCIAL USE OF BIODIVERSITY 28 (1999).

517. Portugal Law Establishing a Legal Regime of Registration, Conservation, Legal Custody and Transfer of Plant Endogenous Material, Decree Law No.118 (2002).

518. *Id.* art. 7 (1).

On the community level, "a comprehensive policy for compensating communities for their intellectual property would be difficult to achieve"[519] given that "the return of benefits to local communities involves difficult decisions about the nature and recipients of the benefits. ... Monetary payments for information might encourage respondents to provide 'nonsense' answers."[520] Thus, this must be determined on a case to case basis. Apart from the monetary aspect, other forms of compensation may be resorted to. An example of this would be for collectors to provide legal resources or nurseries for overexploited or endangered species.[521]

5. Identification of the Rights of Traditional Knowledge Holders and a System of Registration for the Protection of Such Knowledge

> *Sui generis systems could either recognize the inherent right to all traditional knowledge [ ] or establish that the subject matter of protection needs to be documented and fixed in inventories, collections, compilations, or databases.*[522]

The latter seems more practical, taking into consideration the current intellectual property rights system and the reality that patenting is allowed by TRIPS.[523] For instance, the Organization of African Unity (OAU) has drafted the African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources.[524] This model law provides for

> an institutional arrangement for developing a system of registration of items protected by community intellectual rights and farmers' rights according to their customary practices and law. Other provisions pertain to "the development of a national information system to compile and document information on local knowledge and innovation practices of the communities and guidelines for collectors of resources.[525]

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519. Laird, *supra* note 21, at 122.

520. REID, *supra* note 4.

521. *Id.*

522. CBD Ad Hoc, *supra* note 477, ¶ 64.

523. *Id.*

524. *See* Organization of African Unity (OAU), African Model Legislation for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources, *available at* http://www.opbw.org/nat_imp/model_laws/oau-model-law.pdf (last accessed May 28, 2012) [hereinafter African Model].

525. U.N. Trade and Development Board, *Expert Meeting on Systems and National Experiences for Protecting Traditional Knowledge, Innovations and Practice*, ¶ 48, TD/B/COM.1/EM.13/2 (Oct. 1-Nov. 1, 2000) [hereinafter U.N. Expert Meeting].

Costa Rica's Biodiversity Law also provides a participatory process by which indigenous people will determine the nature, extent, and conditions of the *sui generis* community intellectual right,[526] as well as the form the right will take, who will be entitled to hold the legal right,[527] and who will receive its benefits.[528] By means of this process, a registry will be made comprising those intellectual rights that communities wish to register with the Technical Office of the National Commission for the Management of Biodiversity.[529] Such registration will be voluntary and free.[530] The existence of such right claims in the registry will bind the Technical Office to the obligation to oppose the grant of IPR protection being requested for the same element or knowledge.[531] It is not essential for the right to be officially registered for the refusal to be made, provided that the reason is fully justified.[532]

India, on the other hand, has successfully established the India Traditional Knowledge Digital Library (TKDL) that "provides information on traditional knowledge existing in India, in languages and format understandable by patent examiners at International Patent Offices to prevent the grant of wrong patents."[533] It involves "the documentation of traditional knowledge available in public domain in the form of existing literature related to Ayurveda, Unani, Siddha[,] and Yoga, in digitized format in five international languages which are English, German, French, Japanese[,] and Spanish."[534] This traditional knowledge is related to a broad range of subject matters, from medicinal plants, minerals, animal resources, effects[,] and diseases to methods of preparations and mode of administration.[535] Thus, TKDL bridges the gap between traditional knowledge information existing in local languages and the patent examiners at IPOs.[536]

526. Costa Rica Law, art. 83.

527. *Id.*

528. *Id.* art. 85.

529. *Id.* art. 84.

530. *Id.*

531. *Id.*

532. Costa Rica Law, art. 84.

533. India Traditional Knowledge Digital Library (TKDL), About TKDL, *available at* http://www.tkdl.res.in/tkdl/langdefault/common/Abouttkdl.asp?GL=Eng (last accessed May 28, 2012).

534. *Id.*

535. *Id.*

536. *Id.*

The system gives legal protection to traditional knowledge and prevents its misappropriation by "breaking the format and language barrier and making it accessible to patent examiners at International Patent Offices for the purpose of carrying out search and examination."[537] In particular, it allows examiners access to the 30-million-page database and have a better background information at the early stage of patent examination.[538]

Prior to the TKDL, a patent may have been granted and the countries had to present evidence against it after the fact. For instance, as earlier discussed in this Note, the tumeric (revoked in 1997) and the Indian Neem tree (revoked in 2008) were both products of traditional knowledge and the patents were rescinded. However, before the rescission, the Indian government had to go through a long and cumbersome process of proving that the patented methods were not novel and based on traditional knowledge, given that knowledge had only been documented in Sanskrit or ancient writings that required extensive translation.[539] With the TKDL, however, the once onerous process has become an organized system. The texts offer extensive details about ancient medical practices and can now be accessed digitally.[540]

Furthermore, the TKDL also grants examiners the right to compare patent applications with existing traditional knowledge.[541] For instance, if a company seeks to patent the medicinal use of an herb listed in the TKDL, European Patent Officers (EPO) examiners conduct a thorough investigation. It is said that

> [i]n some cases this will lead to a reduction of the scope of the patent or its refusal. However, the company may still be granted a patent on a new method for industrial-scale production of the active ingredient of the herb, for example, if this process is new and inventive.[542]

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537. *Id.*

538. Rupak Chakravarty, *Preserving Traditional Knowledge: Initiatives in India*, 36 INT'L. FED. OF LIB. ASSOC. J. 294, 298 (2010).

539. *Id.* at 295.

540. *Id.* at 297.

541. India's Traditional Knowledge Digital Library (TKDL): A powerful tool for patent examiners, *available at* http://www.google.com.ph/url?sa=t&rct=j&q=&esrc=s&source=web&cd= 1&ved=0CE8QFjAA&url=http%3A%2F%2Fstrategy.unwe.acad.bg %2F_UserFiles%2FPublicDocument%2Ftkdl_a1be76ad75e00f200035df411063c30db.doc&ei= ZpTCT7b8C4jUmAXA9_naCg&usg=AFQjCNHx_S72AUjgHaMBu9YwKPHMtuWePQ&sig2=tFbRJNUFAyKa02kIpdS3gw (last accessed May 28, 2012).

542. *Id.*

6. Competent Authority to Manage Relevant Procedural/Administrative Matters with Regard to the Protection of Traditional Knowledge and Benefit-Sharing Arrangements

A national competent authority to manage procedural and administrative matters should ensure a balanced representation of indigenous and local communities from within the State.[543] Given the likelihood of local and national levels of *sui generis* systems, there is a need to have local competent authorities run by the community, which work closely with the government.[544]

An example of this is Peru's Biological Diversity Law[545] where a National Commission for the Protection of Access to Peruvian Biological Diversity and Collective Knowledge, which is also known as the Commission for Prevention of Acts of Biopiracy, was formally established, providing a series of measures to deal with biopiracy. The third and final supplementary provision of the Law defines "biopiracy" as

> unauthorized and non-remunerated access to and use of biological resources or traditional knowledge of indigenous peoples by others, without the relevant authorization and in contravention of the principles established in the Convention on Biological Diversity and the rules in force on the matter. Such appropriation may occur by means of physical control, through ownership rights to products which incorporate such elements that were illicitly obtained or in some cases through invocation of such elements.[546]

The competent authority should also be guided by limitations, as in the case of Decision 391 of the Andean Pact, which provides a number of criteria where, pursuant to national legislation, the government can impose limitations on access (Article 5) where 1) endemic, rare, threatened, and endangered species are targeted, 2) the activity involves a fragile ecosystem, 3) adverse impacts to human health or the essential elements of cultural identity are at stake, 4) undesirable environmental impacts may occur, 5) there is a danger of genetic erosion, 6) biosecurity issues present themselves, or 7) the proposed activity targets strategic genetic resources or geographical areas (article 45 (a)-(g)).[547]

In addition, the Decision requires that consultation of applicants with indigenous communities be undertaken in good faith, with the objective of

543. CBD Ad Hoc, *supra* note 477, ¶ 13.

544. *Id.* ¶ 84.

545. Act on the Protection of Access to Peruvian Biological Diversity and the Collective Knowledge of Indigenous Peoples, Law No. 28216 (2004).

546. *Id.*

547. Glowka Design, *supra* note 310, at 70.

achieving agreement or consent.[548] The parties involved should seek to establish a dialogue allowing them to find appropriate solutions in an atmosphere of mutual respect and full participation.[549] Effective consultation is

> consultation in which those concerned have an opportunity to influence the decision taken. This means real and timely consultation. For example, a simple information meeting does not constitute real consultation, nor does a meeting that is conducted in a language that the indigenous peoples present do not understand. Convention No. 169 stipulates that the peoples involved should have the opportunity to participate freely at all levels in the formulation, implementation[,] and evaluation of measures and programs that affect them directly.[550]

7. Enforcement and remedies

The protection of traditional knowledge would be useless without effective expeditious remedies against unauthorized use. These should be developed according to customary law principles, and supported by strong institutions and legal processes.

This is illustrated by the African Model Legislation, which provides that "the State shall establish appropriate agencies with the power to ensure compliance with the provisions of the Model Law."[551] Sanctions and penalties include —

(i) written warning;

(ii) fines;

(iii) automatic cancellation/revocation of the permission for access;

(iv) confiscation of collected biological specimens and equipment;

(v) permanent ban from access to biological resources, community knowledge and technologies in the country.[552]

The Model Legislation also provides that

(3) [t]he violation committed shall be publicized and reported by the National Competent Authority to the secretariats of relevant international agreements and regional bodies.

548. *Id.* at 61-62.

549. *Id.*

550. International Workshop on Free, Prior and Informed Consent and Indigenous Peoples, New York, Jan. 17-19, 2005, *Contribution of the ILC*, ¶ 5.

551. African Model, *supra* note 524, art. 67 (1).

552. *Id.* art. 67 (2).

(4) When the collector conducts operations outside of national jurisdiction, any alleged violations by such a collector may be prosecuted through the cooperation of the government under whose jurisdiction the collector operates.[553]

Finally, "decisions on agreements regarding access to community knowledge may be appealed through appropriate administrative channels. Recourse to the courts shall be allowed after exhaustion of all administrative remedies."[554]

C. The U.S.-Peru Trade Promotion Agreement

Aside from local law, treaties between states can also serve to further the cause of protecting traditional and genetic resources. A good model of this is that which is embodied in the U.S.–Peru Trade Promotion Agreement.[555]

Prior to the negotiations, "there was some fear about a clear position of the [U.S.] with regard to traditional knowledge and genetic resources. The [U.S.] insisted on the live organisms' patents favoring the American companies that are developing biotechnology programs and as a logical consequence need patents on genetic resources."[556] Eventually, the parties were able to reach an agreement, recognizing the importance of

(1) obtaining [PIC] from the appropriate authority prior to accessing genetic resources under the control of such authority;

(2) equitable sharing of benefits arising from the use of traditional knowledge and genetic resources; and

(3) promoting quality patent examination to ensure that the conditions for patentability are satisfied.[557]

The parties agreed to find ways "to share information that may have an impact on the patentability based on traditional knowledge or genetic resources by providing: a) publicly accessible databases; and b) an opportunity to give written notice to the appropriate examining authority of existing prior art."[558]

D. Initiatives of the Philippine Intellectual Property Office (IPO)

According to the Philippine Intellectual Property Office (IPO), while the current intellectual property system is silent on traditional knowledge, it does

553. *Id.* art. 67 (3) & (4).

554. *Id.* art. 68.

555. Trade Promotion Agreement, U.S.-Peru, Apr. 12, 2006 (entered into force on February 1, 2009).

556. Núñez, *supra* note 129, at 547.

557. *Id.* at 547-48.

558. *Id.* at 548.

not mean that its protection is not possible.[559] Intellectual property protection of traditional knowledge may be positive (giving an IP right in traditional knowledge to authorize or prevent use) or defensive (avoidance of IP rights in traditional knowledge).[560]

In this light, it is their opinion that the defensive protection of traditional knowledge is possible under the current intellectual property system.[561] Traditional knowledge may be considered as "prior art" that may bar the granting of a patent in the Philippines.[562]

However, there are various definitions[563] of prior art across jurisdictions and the system of documentation of traditional knowledge will have to meet the Minimum Documentation set out by the Patent Cooperation Treaty (PCT) Regulations Rule 34.[564] Moreover, traditional knowledge as "prior art" would have to depend on its nature — whether secret, oral, publicly disclosed or publicly disclosed with limited accessibility, or traditional knowledge held by communities and disclosed only within such communities.[565]

The issue regarding the nature of traditional knowledge in relation to genetic resources is basically still unchartered territory in the Philippines and is only being recently addressed. As regards the functions of the IPO, the office can only act when the traditional knowledge in relation to genetic resource is "registered pursuant to its authority to examine applications for grant of letters patent for inventions and register utility models and industrial designs."[566] Nevertheless, through the initiatives of IPO, a technical working group committee is currently being constituted together with the National Commission for Culture and Arts (NCCA) and National Commission on Indigenous Peoples (NCIP) to explore and address this issue, and ultimately arrive at the best approach to protect the same. In addition, personnel of the IPO's various Intellectual Property Satellite Offices (IPSOs) located throughout the country are required to visit at least one indigenous tribe per month in order to explore the registrability of any traditional knowledge that they may have.[567]

559. E-mail interview by the Author with Atty. Ricardo Blancaflor, IPO Director General, and Atty. Jenifer E. Laygo, IPO Legal Counsel.

560. *Id.*

561. *Id.*

562. *Id.*

563. Núñez, *supra* note 129, at 548.

564. Regulations under the Patent Cooperation Treaty, July 1, 2011, Rule 34.

565. *Id.*

566. *Id.*

567. *Id.*

VI. RECOMMENDATION AND CONCLUSION

A. Recommendation

Because of the diversity of knowledge in traditional communities of different countries, it is impossible to have a one-size-fits-all solution.[568] Effective protection may instead be found in a coordinated "menu" of different options for protection forming part of a legal framework.[569]

In line with this, two forms of protection have been developed and applied: "First, *positive protection*, which means giving traditional knowledge holders the right to take action or seek remedies against certain forms of misuse of traditional knowledge; and second, *defensive protection*, which means safeguarding against illegitimate intellectual property rights being taken by others over traditional knowledge subject matters."[570]

Positive protection includes existing IPR laws and legal systems, extended or adapted IP rights specifically focused on traditional knowledge, and new *sui generis* systems which give specific rights.[571]

> Other non-intellectual property options could form part of the overall menu, including trade practices and labeling laws, the law of civil liability, the use of contracts, customary and indigenous laws and protocols, regulation of access to genetic resources and associated traditional knowledge, and remedies based on such torts as unjust enrichment, rights of publicity[,] and blasphemy.[572]

On the other hand, "defensive protection of [traditional knowledge] entails ensuring that IPR system (and patent application processes in particular) takes into account [traditional knowledge] during the process of evaluating applications for IPR in order to determine the level of novelty and inventiveness."[573] This requires ensuring that IPR authorities have free access to available and relevant information on which to base their decisions regarding the granting of a patent over an invention.[574] One of the ways to do this is to provide access to documented traditional knowledge, whether in

568. Núñez, *supra* note 129, at 512.

569. *Id.*

570. *Id.*

571. *Id.* at 513.

572. *Id.*

573. United Nations University Institute of Advanced Studies (UNU-IAS), The Role of Registers and Databases in the Protection of Traditional Knowledge: A Comparative Analysis *available at* http://www.ias.unu.edu/binaries/UNUIAS_TKRegistersReport.pdf (last accessed May 28, 2012).

574. *Id.*

journals, books, databases, and registers.[575] Documentation allows authorities to analyze prior art to verify important characteristics of inventions and determine if they should be granted protection.[576]

In line with these two types of protection, several proposals to resolve the issue of biopiracy in relation to the TRIPS and CBD

> have surfaced in international discussions and thus far can be divided into three categories: (1) proposals to provide more effective defensive protection of public domain genetic resources and traditional knowledge by expanding the definition of 'prior art' and/or creating and improving access to documentation of public domain genetic resources and traditional knowledge in online databases and digital libraries; (2) proposals to promote a more fair and equitable sharing of the benefits of genetic resources and associated traditional knowledge, as mandated by the CBD, by requiring disclosure of origin of any relevant genetic resources and associated traditional knowledge and evidence of prior informed consent of the providers of the same as a condition either for filing a patent application or for enforcing an otherwise valid patent; and (3) proposals to create a new *sui generis* form of affirmative intellectual property protection for traditional knowledge.[577]

Traditional knowledge linked to genetic resources does not seem to fall under the conventional legal system of intellectual property rights protection (e.g. patents, copyrights, trademark, etc.).[578] These conventional forms of IPRs are inadequate to protect indigenous knowledge because they are based on protection of individual property rights, whereas traditional knowledge is collective.[579] Further, the informal knowledge presents other difficulties in being recognized for the purpose of IP protection, such as the fact that

(1) knowledge is developed over a period of time and may either be codified in texts or retained in oral traditions over generations,[580]

(2) the conditions of novelty and innovative steps necessary for grant of patents are therefore not satisfied,[581] and

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575. *Id.*

576. *Id.*

577. Charles R. McManis, *Teaching Current Trends and Future Developments in Intellectual Property,* 52 ST. LOUIS U. L.J. 855, 869-70 (2008).

578. IP Handbook of Best Practices, Intellectual Property in India, *available at* http://www.iphandbook.org/handbook/resources/Country/India/ (last accessed May 28, 2012).

579. *Id.*

580. *Id.*

581. *Id.*

(3) communities quite often hold knowledge in parallel.[582]

Despite these, however, "the development of an appropriate form of protection for the knowledge of local communities is of great interest to countries which are rich in biodiversity, and also rich in traditional knowledge."[583]

Taking these into consideration, it is proposed that a solution be made on the international level and on the local level. This is important because biopiracy is not just a domestic issue but has transcended to the international level, particularly with the tug-of-war between the global north and the global south.

1. International Level

In the WTO, the relationship between the CBD and TRIPS with regard to the protection of traditional knowledge has been discussed in both the TRIPS Council and the Committee on Trade and Environment (CTE) given that the TRIPS does not explicitly address the protection of traditional knowledge.[584] Several WTO Members have argued that nothing in the TRIPS prevents WTO Members from implementing national measures to support CBD objectives, which includes the protection of traditional knowledge through *sui generis* systems.[585] However, national action alone may not be sufficient to achieve benefit-sharing, which requires international action.[586] In this regard, it has been suggested that a provision be included in TRIPS which would require disclosure, in the process of patent application, of the origin of any relevant biological resources and associated knowledge.[587]

The Author of this Note thus recommends that the TRIPS be amended such that patent applicants be required to disclose 1) the source or origin of genetic resources and traditional knowledge that they use, and 2) information on PIC and benefit sharing. The proposed draft of this WTO amendment[588] will include the insertion of a provision in Article 27 on Patents that will specifically require an applicant to disclose the following —

(1) genetic resources and traditional knowledge used in inventions for which intellectual property rights are claimed,

582. *Id.*

583. *Id.*

584. *See generally* U.N. Expert Meeting, *supra* note 525.

585. *Id.* ¶ 26.

586. *Id.*

587. *Id.*

588. The WTO draft amendment is attached as Annex A of the Author's Thesis, which is the basis of this Note.

(2) the country and community of origin of these resources and knowledge, and proof of prior informed consent having been sought of the relevant community, and

(3) equitable benefit-sharing arrangements having been entered into with them.[589]

Such amendment will place the TRIPS in closer conformity with the CBD and the recently adopted Nagoya Protocol on access to and benefit sharing. This is also a form of positive protection because it gives developing countries a stronger legal basis for the protection of their rights.

As to a *sui generis* system of granting IPRs for traditional knowledge in relation to genetic resources, it is better if this were addressed by national legislation, given that the needs of indigenous communities vary in each country. The *sui generis* system must be designed to cater to the particular needs of such communities, having the important features or elements such as: statement of purpose and objectives; Community ownership of traditional knowledge associated with biological and genetic resources; recognition of elements of customary law relevant to the conservation and sustainable use of biological diversity; a process and set of requirements governing prior informed consent, mutually agreed terms and equitable sharing of benefits; identification of the rights of traditional knowledge holders and a system of registration for the protection of such knowledge; competent authority to manage relevant procedural/administrative matters with regard to the protection of traditional knowledge and benefit-sharing arrangements; and enforcement and remedies.

2. Domestic Level

Although the Philippines is not lacking in laws to protect indigenous knowledge, there are still gaps that need to be addressed and improvements that can be made so as to sufficiently comply with international obligations for the prevention of biopiracy. These recommendations are as follows —

1) Draft and pass a law that has the features of Senator Flavier's proposed "Community Intellectual Rights Protection Act (CIPRA)."

Last 2001, Senator Juan Flavier filed a bill called the Community Intellectual Rights Protection Act or CIPRA,[590] which contains relevant provisions that conform with the features of a *sui generis* system as outlined by the CBD Ad Hoc Guidelines outlined above.[591] However, this Bill was never passed into

589. As proposed by several states. *See* DUTFIELD, *supra* note 165, at 138-39.

590. An Act Providing for the Establishment of a System of Community Intellectual Rights Protection, S.B. No. 35, 13th Cong., 1st Reg. Sess. (2004).

591. *See* Marie Yasmin M. Sanchez, Combating Biopiracy: Harmonizing the Convention on Biodiversity (CBD) and the WTO Treaty on Trade-Related

law. Thus, the Author proposes that a law be enacted incorporating the features of this Bill, as follows —

First, the Bill declares that

> the State recognizes the original rights of indigenous peoples and local communities over plant and genetic resources, traditional medicines, agricultural methods and local technologies they have discovered and developed. As such, these communities shall become the general owners, with primary and residuary title to (i) the formal or informal communal systems of innovation through which they produce, select, improve, and breed a diversity of crop and livestock varieties; and to (ii) the plant varieties, genetic resources, traditional medicines, agricultural practices and devices, and technologies produced through these systems.[592]

Second, it provides for community ownership of traditional knowledge, given that

> all benefits arising from the knowledge and innovations by indigenous and local communities should accrue to their development and welfare and should therefore be equitably shared. Any commercial utilization of such knowledge and innovations should be made only with the free and informed consent of its general owners or custodians under terms mutually agreed upon.[593]

Third, it recognizes the customs of indigenous people by stating that "the state shall also strive to protect and encourage the customary use of biological resources in accordance with traditional cultural practices which are compatible and which promote conservation and sustainable use."[594]

Fourth, although the Bill does not have a process governing prior informed consent, such process is specifically provided and detailed in the Guidelines for Bio-prospecting Activities in the Philippines.[595]

Fifth, it also provides that the state shall

> document and make a systematic inventory of plant and genetic resources and knowledge originating from indigenous and local communities, and from all other sectors without the usual access to journals of the scientific, business[,] and academic communities, especially those who do not have a

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Aspects of Intellectual Property Rights (TRIPS) in Relation to the Protection of Indigenous Traditional Knowledge and Genetic Resources, Chapter 5 (2012) (unpublished J.D. thesis, Ateneo de Manila University) (on file with the Ateneo Professional Schools Library, Ateneo de Manila University).

592. S.B. No. 35, § 2 (a).

593. *Id.* § 2 (c).

594. *Id.*

595. *See* Joint Guidelines.

> written traditional knowledge, while distinct and separate from the awarding of patents, shall become a basis for proprietary ownership.[596]

Sixth, it creates an authority called the National Commission on Plant Genetic Resources,[597] which is obligated to

> keep an updated National Inventory of Plant Varieties in pursuit of a mandate to record and recognize the contributions of local communities and indigenous peoples to the development and discovery of new plant varieties, and to provide for the protection of Philippine plant genetic resources from unfair and inequitable exploitation.[598]

However, for practicality purposes, the Author of this Note recommends that instead of creating a new commission that will entail additional costs, such task be given to the already existing IPO in collaboration with the NCIP.

Finally, although the Bill does not provide for specific penalties for its violation, the Joint Guidelines[599] also provide for penalties for failure to obtain PIC and equitably share benefits, to wit —

> Section 31.1 Non-compliance with the provisions in the Bioprospecting Undertaking shall result in the automatic cancellation /revocation of the said agreement and confiscation of collected materials in favor of the government, forfeiture of bond and imposition of a perpetual ban on access to biological resources in the Philippines by the violator. Such breach is considered a violation of the Wildlife Act and shall be subject to the imposition of administrative and criminal sanctions under existing laws. Any person who shall conduct bioprospecting without a BU subject to sanctions for collecting without a permit.[600]

If passed into law, this Act would explicitly give IPRs to indigenous communities over their resources, in effect complying with the recommendation of a *sui generis* system for the protection of traditional knowledge in relation to genetic resources. Indigenous people would then have a stronger legal basis against biopiracy. Moreover, the law itself does not prohibit patenting, as long as prior informed consent is obtained, and benefits are equitably shared.

2) Broaden the definition of "bio-prospecting"

Currently, "bio-prospecting" is defined as "the research, collection[,] and utilization of biological and genetic resources for purposes of applying the

596. S.B. No. 35, § 2 (b).

597. *Id.* § 7.

598. *Id.*

599. *See* Joint Guidelines.

600. *Id.* § 31.1.

knowledge derived therefrom solely for commercial purposes."[601] The Author proposes that the definition of "bio-prospecting" be amended to expand its meaning, as follows —

> a. "*Bioprospecting*" means the research, collection, *or* utilization of biological and genetic resources for purposes of applying the knowledge derived therefrom *for any purpose*;

This will in effect cover protection not only against the theft of genetic resources, but also traditional knowledge, whether in relation to or independent from genetic resources. For instance, under this amendment, a scientist who goes to an indigenous community, learns about a certain traditional medicine, takes that knowledge, and develops it outside the community can now be considered a "bio-prospector" and therefore, obliged to obtain PIC and justly compensate the community from which it was derived. Even if he simply conducts research and utilizes the knowledge (without collection), he will still have to meet the bio-prospecting requisites. Of course, given that he did not take a particular sample, the amount will have to be adjusted proportionally. On the other hand, a company that collects and utilizes a large amount of genetic resources in relation to traditional knowledge will have to give a bigger amount.

Removing the phrase "*solely* for commercial purposes" and revising it to the phrase "for any purpose" will also broaden the definition of bio-prospecting such that, for instance, groups in the guise of "academic research" who intend to use the knowledge or genetic resources for profit to circumvent the law will also be considered "bio-prospectors." This will strengthen the protection of traditional knowledge and genetic resources.

3) Create a traditional knowledge digital library.

Proper documentation of traditional knowledge can help to prevent biopiracy. If the material or knowledge is documented, it can be made available to patent examiners around the world so that prior art in the case of inventions based on such materials or knowledge would readily be available to them. Such documentation can also facilitate the tracing of indigenous communities with whom benefits of commercialization of such materials or knowledge have to be shared. In fact, other countries, such as India and Australia, have established their own traditional knowledge registries.[602]

Last 2009, the Philippine Institute of Traditional and Alternative Health Care (PITAHC), an attached agency of the Department of Health, together with the University of the Philippines, Manila - National Institute of Health (NIH), combined efforts in a research project funded by the PITAHC,

601. Wildlife Resources Conservation and Protection Act, § 5 (a).

602. Bautista, *supra* note 111, at 29.

which will document Philippine traditional knowledge and practices in health.[603] They started by documenting the knowledge and practices of the Agta People of Casiguran, Aurora and the Alta People of San Luis, Aurora.[604] The PITAHC has also begun maintaining a database of different traditional and alternative health care materials and products available from the Philippines.[605]

However, this documentation is far from complete. In fact, according to Atty. Ricardo Blancaflor, Director General of the IPO, there is currently no national traditional knowledge database similar to that of India. He remarked that "[it is] a shame because the Philippines is so rich in biodiversity and traditional knowledge and we [do not] have a comprehensive record of this. We need a database that will help to protect our resources from exploitation."[606] The IPO itself has begun to take this initiative, and intends to work with the NCIP to achieve this goal. According to Atty. Blancaflor, they have only started the process about three months ago,[607] and a stronger legal system for the protection of traditional knowledge and indigenous people is still necessary.

A digital library will also allow the Philippines to comply more closely with the CBD, which states that

> [e]ach Contracting Party shall take legislative, administrative or policy measures, as appropriate ... 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.[608]

This Provision emphasizes the active role that the government must play in the protection of knowledge and resources. Having a documentation mechanism handled by government agencies like the IPO and NCIP

603. *See* Department of Health, Guidelines on the Utilization of Funds Transferred to the Philippine Institute of Traditional Alternative Health Care, Department Order No. 2009-0224 (Aug. 19, 2009).

604. *Id.*

605. Marga C. Domingo-Morales, The Role of Intellectual Property in Protecting Traditional Knowledge (The Philippine Experience) (A Report Presented to the Seminar on Traditional Knowledge in New Delhi, India) 5, *available at* http://www.docstoc.com/docs/14875116/The-Role-of-Intellectual-Property-Rights-in-Traditional-Knowledge (last accessed May 28, 2012).

606. Interview with Atty. Ricardo Blancaflor, Director General, IPO (May 3, 2011).

607. That is, around the month of February in 2011, since the interview was in May of the same year.

608. CBD, *supra* note 34, art. 15 § 7.

working closely with indigenous communities will also help to ensure that just compensation and equitable benefits are given.

It must be noted, however, that mere documentation may not enable sharing of benefits arising out of the use of such knowledge, unless it is backed by some kind of mechanism for protecting the knowledge. Documentation of traditional knowledge may only serve a defensive purpose, namely that of preventing the patenting of this knowledge in the form in which it exists. Documentation *per se*, however, will not facilitate benefit sharing with the holders of traditional knowledge,[609] which is why positive protection, as recommended above, is still needed — that of amending and strengthening current domestic law.

B. Conclusion

The CBD and TRIPS are two international conventions that contain provisions which, when first read and compared, may seem inconsistent. However, when taken and analyzed as a whole, it can be concluded that the treaties themselves are not inherently incompatible, and are only likely to conflict in the way they are implemented. This is further bolstered by the fact that they deal with different subject matters and issues. The CBD covers the protection of biological diversity, sustainable use of its components, and fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The TRIPS, on the other hand, deals with the protection of intellectual property. Furthermore, the TRIPS is not intended in any way to catalyze biopiracy, given that it explicitly states in its objective the desire to maintain a "balance of rights and obligations" and "mutual advantage of producers and users of technological knowledge."

Secondly, given that conflict can arise in terms of implementation, it is necessary to identify a legal framework that will harmonize the CBD and TRIPS. This can be done through a *sui generis* system of patent protection for genetic resources and traditional knowledge, both on the international and domestic level. For the international level, an amendment of the TRIPS will link it more closely to the CBD. This can be done, in particular, by requiring the patent applicant to disclose 1) the kind and origin of the resource and traditional knowledge used (i.e., the country and community where it came from), 2) proof of PIC, and 3) equitable benefit-sharing, as required by the CBD. This will also serve to bind the TRIPS signatories and consequently help to better combat biopiracy. A stronger enforcement mechanism that involves TRIPS parties such as the U.S. and other developed countries is significant given that the Nagoya Protocol, which simply implements the provisions of the CBD on benefit-sharing and binds

609. Bautista, *supra* note 111, at 29.

parties to the CBD, does not bind parties to the TRIPS, which is a WTO treaty.

Finally, on the domestic level, it can be said that the Philippines substantially complies with its international obligations under the CBD, Nagoya Protocol, and TRIPS through its national laws, which require PIC and just compensation before undertaking bio-prospecting activities. However, these laws can still be enhanced in order to better achieve the objectives of the said conventions. Given the fact that the Philippines is rich in genetic resources and traditional knowledge and taking into consideration the number of biopiracy cases in the country, it is necessary to come up with stricter measures to prevent misappropriation and exploitation. This can be done through the passage of a law that will explicitly recognize the community IPRs of indigenous people to their traditional knowledge in relation to genetic resources, incorporating the elements of a *sui generis* system as outlined in international guidelines. Moreover, there is also a need to provide a broader definition for "bio-prospecting," which will protect not only genetic resources, but also traditional knowledge. In line with this, providing documentation of traditional knowledge and the development of a registration and patent system similar to that of other countries can also help to prevent biopiracy.

To summarize, although there may be different points of view with regard to the interpretation and implementation of the CBD and TRIPS, an examination of both laws shows that both do *not* condone biopiracy and in fact, encourage balance and sustainable development. Through the harmonization of the CBD and TRIPS, and subsequent strengthening of national laws, biopiracy will not only be remedied but more importantly, genetic resources and traditional knowledge will be protected from exploitation and in the long run, preserve the right to a balanced and healthful ecology. Consequently, this will redound to the benefit of the present and future generations.