

# Women’s Work, Women’s Knowing: Intellectual Property and the Recognition of Women’s Traditional Knowledge

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**ABSTRACT:** This Comment inserts a new question into the intellectual property academy’s dialogue on traditional knowledge: Where are the women? Political scientist Cynthia Enloe insists that this is the crucial question for any feminist examination of global law and politics, and it is taken up here in order to apply a gendered lens to traditional knowledge—a perspective which, until now, has been largely absent. The Comment identifies the knowledge that women have possessed for generations as a gendered cultural possession deserving of a place in the international intellectual property rights framework. Women should not have to inhabit the largely Western- and male-dominated paradigm of the scientific inventor in order to gain recognition for and avoid exploitation of their knowledge by commercial actors in the international marketplace. However, legal protections for women’s traditional knowledge must be extended in keeping with feminist values of equality and dignity; thus the Comment presents principles to be used in deciding how best to bring attention to women’s traditional knowledge and applies them to three frameworks of international property rights. Finally, the Comment makes suggestions for future policy goals to further the recognition of women’s traditional knowledge.

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## INTRODUCTION

Since the ratification of the Trade-Related Aspects of Intellectual Property Agreement (TRIPs)<sup>1</sup> in 1994 and the ratification of the Convention on Biological Diversity (CBD)<sup>2</sup> in 1993, the knowledge passed down from generation to generation in traditional societies around the globe has become the locus of great debate in the field of international intellectual property (IP) law. Should traditional knowledge be protected by law, or should it be part of the public domain? Should it receive the same kinds of protections as “invented” knowledge—trademark, patent, copyright? Should it be covered by *sui generis* systems of intellectual property law? These questions are topics of growing importance in the literature.

In this Comment, I add another question to the mix, a question which represents a blind spot in the field of intellectual property study: Where are the women? Political scientist Cynthia Enloe insists that this is the crucial question for any feminist examination of issues of global law and politics.<sup>3</sup> I apply it here in order to analyze women's knowledge by applying a gendered lens to traditional knowledge—a perspective which, until now, has been largely absent. The knowledge which women have possessed for generations—knowledge particular to the community of women—must be brought to light as a gendered cultural possession, a subset of traditional knowledge that should be celebrated. Women should not have to inhabit the largely Western- and male-

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1. Agreement on Trade-Related Aspects of Intellectual Property, Apr. 15, 1994, 33 I.L.M. 81 [hereinafter TRIPs]. For an introduction to TRIPs, see World Trade Organization, Overview: The TRIPs Agreement, [http://www.wto.org/english/tratop\\_E/trips\\_e/intel2\\_e.htm](http://www.wto.org/english/tratop_E/trips_e/intel2_e.htm) (last visited Nov. 20, 2009).

2. United Nations Conference on Environment and Development: Convention on Biological Diversity, June 5, 1992, UNEP/Bio.Div/N7-INC 5/4, 31 I.L.M. 818 (1993) (opened for signatures May 1999, entered into force December 1993) [hereinafter CBD].

3. CYNTHIA ENLOE, *BANANAS, BEACHES AND BASES: MAKING FEMINIST SENSE OF INTERNATIONAL POLITICS* 1-18 (2000) (examining the role of women in international politics by asking “Where are the women?” and applying the question to case studies in the international garment industry, military bases, diplomatic families, childcare and housekeeping, and the fruit industry).

dominated paradigm of the scientific inventor in order to gain recognition for and protection of their knowledge, and their traditional know-how should not be freely available for enclosure and exploitation by commercial actors in the international marketplace. Additionally, recognizing women's authorship and ownership of their traditionally-held knowing serves feminist imperatives of empowerment, equality, and recognition, imperatives incorporated into the United Nations Millennium Development Goals.<sup>4</sup>

This Comment proceeds in three parts. Part I sets out a brief overview of what I call the "invention paradigm," an intellectual property ideal which values science, research, and innovative knowledge and which has historically eschewed traditional knowledge as inferior in creativity and newness to the work of inventors. This paradigm has been largely dominated by men and by the West (or the Global North, depending on one's chosen terminology), but it also recognizes a handful of intrepid female innovators, who sometimes inhabit the paradigm in a particularly gendered way. Part II discusses traditional knowledge in general and its gendered identification with the natural world and then turns to a specific discussion of women's traditional knowledge. Finally, it argues that women's traditional knowledge is a particularly gendered cultural creation, the recognition of which is a feminist imperative. Part III briefly places women's knowledge in the context of the global gender agenda and international agreements related to women and then sets out principles and recommendations for determining how best to recognize and protect women's traditional knowledge within international intellectual property law. Finally, Part III applies the proposed principles to an analysis of three specific frameworks of intellectual property law and makes suggestions for future policy initiatives.

#### PART I: INVENTION, INNOVATIVE KNOWLEDGE, AND THE WOMAN OF SCIENCE

This Part discusses the dominance of the invention paradigm in intellectual property and its consequences for women. It describes some of the ways in which female scientists creatively inhabit the male-dominated realm of inventive knowledge, as well as the effect that the invention paradigm has on women as holders of intellectual property rights (IPRs) and on the devaluation of the traditional knowledge which women maintain, nurture, develop, and transmit.<sup>5</sup>

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4. U.N. Dept. of Econ. & Soc. Aff. [DESA], *The Millennium Development Goals Report 2009*, 20-25 (2009), available at [http://www.un.org/millenniumgoals/pdf/MDG\\_Report\\_2009\\_ENG.pdf](http://www.un.org/millenniumgoals/pdf/MDG_Report_2009_ENG.pdf) [hereinafter MDGs]. For information on the MDGs generally and current work being done to reach them, see United Nations, *Millennium Development Goals*, <http://www.un.org/millenniumgoals/> (last visited Nov. 20, 2009).

5. This last point is addressed at greater length in Part II.C, *infra*.

It should be clear, however, that this discussion is not meant to disparage the invention paradigm, nor to discourage women who wish to be research scientists. Rather, my intention is to highlight how this paradigm has historically been Western- and male-dominated, often making it a difficult sphere for women (particularly women in the developing world) to enter. A brief introduction to the invention paradigm is necessary background to a discussion of traditional knowledge, as that paradigm has long dominated intellectual property, at times to the detriment or exclusion of other forms of knowledge.

#### *A. Innovative Knowledge and the Scientific Ideal*

The intellectual property regime of the United States is fairly representative of the IP systems of many developed nations (albeit with some differences, such as the time period for which rights are granted<sup>6</sup>); in fact, since the TRIPs agreement was signed, the world's countries (including developing countries) have all drawn much closer to Western-style intellectual property regimes.<sup>7</sup> The U.S. Constitution grants Congress the power to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."<sup>8</sup> In

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6. For example, in the United States, "[f]or works created after January 1978 copyright runs for a term of 70 years after the death of the author or last surviving author." William M. Landes & Richard Posner, *An Economic Analysis of Copyright Law*, in *ECONOMIC ANALYSIS OF THE LAW: SELECTED READINGS* 83, 96 n.1 (Donald A. Wittman ed., 2003). TRIPs applies the Berne Convention's floor protection of fifty years past the author's death to all WTO members and adds that a fifty-year minimum period of protection is required even in the event that protection is *not* tied to the author's lifetime. See TRIPs, *supra* note 1, at arts. 9 & 12; Berne Convention for the Protection of Literary and Artistic Works (Paris Act, 1971), Art. 7(1). The European Union, like the United States, gives a seventy-year term of protection after the death of the author. See Council Directive 93/98/EEC, art. 1, 1993 O.J. (L 290), 1 (EC).

7. Because the TRIPs agreement applies to all 153 World Trade Organization (WTO) member states, there is a "floor" of IP requirements applicable to the vast majority of the world's countries, including developing countries. See World Trade Organization, TRIPs FAQs, Does the TRIPs Agreement Apply to All WTO Members?, [http://www.wto.org/english/tratop\\_e/trips\\_e/tripfq\\_e.htm#Who%27sSigned](http://www.wto.org/english/tratop_e/trips_e/tripfq_e.htm#Who%27sSigned) (last visited Nov. 20, 2009); see also World Trade Organization, Members and Observers, [http://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm](http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm) (last visited Nov. 20, 2009). Developing states were allowed to opt into a "general transition" period, during which they could phase in their TRIPs obligations; however, this period ended in 2006 for both "developing" and "least-developed" countries (LDCs). LDCs may apply for extensions on the general transition and have until January 1, 2016, to implement the TRIPs rules regarding pharmaceutical patents. See World Trade Organization, TRIPs FAQs, Which Countries Are Using the General Transition Periods?, [http://www.wto.org/english/tratop\\_e/trips\\_e/tripfq\\_e.htm#Transition](http://www.wto.org/english/tratop_e/trips_e/tripfq_e.htm#Transition) (last visited Aug. 28, 2009). Hence, when this Comment discusses the requirements of intellectual property law, the reader may assume unless otherwise noted that I am referring to the requirements of TRIPs. For an excellent discussion of the "globalisation of intellectual property" and the many multilateral treaties on IP, see GRAHAM DUTFIELD & UMA SUTHERSANEN, *GLOBAL INTELLECTUAL PROPERTY LAW* 3-44 (2008). Note, however, that while IP law has become much more homogenized than ever before, an enforcement gap does remain between developed and developing nations. See *infra* note 35 and accompanying text (discussing enforcement problems and weak institutionalization of IP in developing countries).

8. U.S. CONST., art. I, § 8, cl. 8.

the modern world, such knowledge rights are generally considered, from an economic and pragmatic standpoint, necessary to incentivize and encourage *ex ante* the work of inventors, writers, artists, and other actors in the fields of “Science” and the “useful Arts.”<sup>9</sup> The central purpose of an intellectual property system operating under the incentive logic is to promote the production of new works or new ideas by guaranteeing the maker or author the exclusive right to remuneration for the things that he or she produces.<sup>10</sup> Many scholars have since taken issue with this IPR-as-incentives view,<sup>11</sup> and times have certainly changed in terms of who the “typical” inventor is—now a corporation rather than an individual<sup>12</sup>—but the dominant understanding of intellectual property rights awarded to an inventor as a device for fostering innovation has largely kept its hold on IP law.<sup>13</sup>

What might the idealized individual IPR holder look like? A passage from George Iles’ 1912 biographical history of important (male) American inventors is illuminating:

[A]mong inventors we meet men of a wholly different stamp. First and last, they are pioneers who descry new worlds for industrial conquest. To plant, till, and water these empires they need new tools, machines, and engines. These they build, not for the joy of building, as might your instinctive inventor, but simply as means to the mastery of a continent, with fibers of gainful service reaching every home in the land.<sup>14</sup>

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9. *Id.*; see GARY MYERS, PRINCIPLES OF INTELLECTUAL PROPERTY LAW: A CONCISE HORNBOOK 4 (2008) (“[S]ociety might choose to provide Intellectual Property rights in order to stimulate and reward the creation of Intellectual Property. Without this incentive, there would be little or no financial reward for the creation of Intellectual Property, because it would be quickly used by others without any payment or permission.”); see also RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW § 3.3 (7th ed. 2007) (providing an economic analysis and justification for IPRs).

10. See MYERS, *supra* note 9; POSNER, *supra* note 9.

11. See, e.g., DEBORA J. HALBERT, RESISTING INTELLECTUAL PROPERTY 5 (2005) (stating that the TRIPs assumption that “creation stems from the chance of monetary rewards” is “shortsighted”); Nancy Gallini & Suzanne Scotchmer, *Intellectual Property: When Is It the Best Incentive System?*, in 2 INNOVATION POLICY & ECONOMY 51, 51 (Adam B. Jaffe, Josh Lerner & Scott Stern eds., 2002) (“One complaint is that intellectual property rewards inventors beyond what is necessary to spur invention. Another is that intellectual property is a drag to innovation, rather than a spur, since it prevents inventions from being used efficiently, especially in creating further innovations.”); Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCI. 698 (1998) (arguing that over-extensive property rights may actually deter innovation, as they may make it too costly to gather the necessary rights for new creations). For more on the various disagreements and questions surrounding intellectual property rights, see generally THE INTELLECTUAL PROPERTY DEBATE: PERSPECTIVES FROM LAW, ECONOMICS AND POLITICAL ECONOMY (Meir Perez Pugatch ed., 2006).

12. See DAVID F. NOBLE, AMERICA BY DESIGN: SCIENCE, TECHNOLOGY, AND THE RISE OF CORPORATE CAPITALISM 84-109 (1977).

13. See Chairman, Commission on Intellectual Property Rights, *Integrating Intellectual Property Rights and Development Policy* 14-18 (2002) [hereinafter IPR Commission Report].

14. GEORGE ILES, LEADING AMERICAN INVENTORS 3 (1912). Iles describes twelve American male inventors, most of whom were well known for their mechanical inventions, and the impact of their inventions on the American economy. For example, Robert Fulton is credited as the inventor of the steam engine, and Eli Whitney is credited as the inventor of the cotton gin. *Id.* at 40, 75.

Iles conceptualizes the idealized inventor as intelligent, creative, male, and part of a project of utility—finding ways to use and shape the resources at hand into technologies which can be used to exploit natural bounty. Iles and his contemporaries viewed inventors as part of the colonial and industrial project, turning raw materials into useful machines which could drive civilization.<sup>15</sup> The type of scientific discipline practiced by the idealized inventor may have changed with the advent of corporate research and development labs and the shift from the Industrial Age to the Information Age, but discovery,<sup>16</sup> newness, and creation are still powerful hallmarks of work that is considered deserving of intellectual property protection.<sup>17</sup>

The modern innovative-knowledge legal regime in the United States has four main requirements which an inventor must meet in order to secure a patent for his or her invention: the invention must be 1) in an area of patentable subject matter, 2) novel, 3) useful (particularly in terms of industrial application), and 4) non-obvious.<sup>18</sup> These requirements are similar in many parts of the world, though they do vary somewhat.<sup>19</sup> As many are now required of developing nations who are signatories of TRIPs, the world is seemingly

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15. *See id.* at vii-viii.

16. A brief note on what I mean by “discovery”: Though it might seem that discovery could be associated with traditional or indigenous knowledges (discerning the utility of something already in existence) while invention could be associated with researchers and creators of gadgets (mixing human ingenuity and the scientific method with available materials to produce something new), I am using “discovery” in a particular way within these pages. Discovery within this Comment should be taken to mean an “eureka” moment, akin to the “flash of creative genius” described by the U.S. Supreme Court in *Cuno Engineering v. Automatic Devices*, 314 U.S. 84, 91 (1941). Ironically, many “discoveries” throughout history have, in fact, been stumblings across the path of something already in existence and already known. Think, for example, of Columbus’s “discovery” of the New World. The key point here is that I am using “invention” and “discovery” as descriptors of a kind of knowledge that is viewed as taking place with intention, innovation, and within a discrete period of time, as opposed to the view of traditional knowledge as a kind of long-term accretion of knowing that lacks a clear originating point in time or a clear creator.

17. *See* ARTHUR R. MILLER & MICHAEL H. DAVIS, *INTELLECTUAL PROPERTY: PATENTS, TRADEMARKS, AND COPYRIGHT IN A NUTSHELL* 40-41, 299-300 (2007) (discussing the novelty requirement for patents and the originality requirement for copyright); *see also* MYERS, *supra* note 9, at 5 (arguing that IP rights reward “innovation”).

18. *See* KEITH AOKI, *SEED WARS* 27-30 (2008) (providing a “General Overview of U.S. Patent Law”); MILLER & DAVIS, *supra* note 17, at 20-96 (discussing patentable subject matter and the elements of patentability).

19. For example, until recently India allowed patents on products but not processes. This meant that drugs could be produced as generics (containing the same ingredients as the drug produced by a large pharmaceutical company) so long as it did not follow the same production scheme. However, TRIPs demands that processes be patentable, TRIPs, *supra* note 1, at art. 28, a requirement that has essentially destroyed the generic drug industry in India. This development has been greeted with pleasure by Western pharmaceutical companies and with dismay by many public health advocates. *See* Jean O. Lanjouw, *The Introduction of Pharmaceutical Product Patents in India: “Heartless Exploitation of the Poor and Suffering”?* (Yale Univ. Econ. Growth Center, Discussion Paper No. 775, 1997), available at [http://www.econ.yale.edu/growth\\_pdf/cdp775.pdf](http://www.econ.yale.edu/growth_pdf/cdp775.pdf). Additionally, until the Supreme Court decided *Diamond v. Chakrabarty*, 447 U.S. 303 (1980), patents could not be obtained for living organisms under U.S. law. The Court’s *Chakrabarty* decision meant that “U.S. utility patents could be obtained on living organisms as altered by human beings.” AOKI, *supra* note 18, at 4.

moving toward the innovative/useful/non-obvious inventive paradigm found in the United States.<sup>20</sup>

### *B. Women and the Invention Paradigm*

Women have silently inhabited the inventor-centric model for years, and their achievements have only recently been brought to light, often by persevering female scholars in the field of science and technology studies.<sup>21</sup> Women who successfully navigate the male-dominated waters of the scientific community find themselves in a position to patent their ideas, though historically they have not always received full credit for their inventions.<sup>22</sup> Non-scientist women who create useful new products may also be recognized; this recognition is often based on a feminist desire to emphasize to the world that women do, in fact, invent—that the scientific paradigm is not a world closed to women, even if it is not (yet) inhabited by equal numbers of men and women.<sup>23</sup>

In 1991, Farag Moussa wrote a short volume describing the often unsung accomplishments of several women inventors who had been honored by the World Intellectual Property Organization (WIPO).<sup>24</sup> For example, Olympia Gonzales, a female scientist in the area of food technology who lives and works in the Philippines, has “concentrated much of her research efforts on the development of new and improved products from the coconut.”<sup>25</sup> Gonzales is a scientist and researcher with a master’s degree, a position as the head of an important government research institute in Manila, and numerous scientific articles and awards to her name. What sets her apart from many researchers in

20. Developing countries were given a grace period of five years after joining TRIPs and could delay enforcement of certain parts of TRIPs for an additional five years. TRIPs, *supra* note 1, at art. 65, 33 I.L.M. at 107-08. LDCs were given a period of ten years from “the date of application” to come into compliance with TRIPs and have until 2016 to comply with provisions on pharmaceutical patents. *Id.* at art. 66, 33 I.L.M. at 108.

21. See, e.g., SUSAN CASEY, *WOMEN INVENT: TWO CENTURIES OF DISCOVERIES THAT HAVE SHAPED OUR WORLD* (1997) (tracing the process of invention through the stories of several female inventors); ANNE L. MACDONALD, *FEMININE INGENUITY: WOMEN AND INVENTION IN AMERICA* (1992) (examining American women inventors’ work from colonial times to the present, with an emphasis on patents held by women); see also AUTUMN STANLEY, *MOTHERS AND DAUGHTERS OF INVENTION: NOTES FOR A REVISED HISTORY OF TECHNOLOGY* xxi (1993) (broadening the discussion on what constitutes invention and inventors by focusing on “women’s contributions to human technology” and “revising the received definition of technology”).

22. See, e.g., MACDONALD, *supra* note 21, at 3 (“Even after English King George I acknowledged the critical role that colonist Sybilla Masters played in the development of Pennsylvania’s economy by citing her as the inventor of the new way ‘for cleaning and curing the Indian corn growing in several colonies in America,’ he nonetheless issued the patent itself to her husband, Thomas Masters.”).

23. See FARAG MOUSSA, *WOMEN INVENTORS HONoured BY THE WORLD INTELLECTUAL PROPERTY ORGANIZATION* 15-16 (1991) (“The classical image of an inventor is always, exclusively, male. . . . This book has one message, and it is an important one: creativity knows no frontier, no age and above all . . . no gender.”) (second ellipsis in original).

24. *Id.*

25. *Id.* at 76.

large Western research and development facilities, however, is the fact that her research incorporates aspects of her cultural heritage and the traditional elements of her country's food economy.<sup>26</sup> She has devoted part of her research energy toward turning cheap and vitamin-rich local fruit into a nutritious baby food recipe, thus incorporating motherhood, local raw products, traditional botanic knowledge, scientific know-how, and utility into a single product.<sup>27</sup>

Similarly, Kapinga Mikalu, a schoolteacher born in what was then Zaire, invented "a microbe-detecting technique which uses saliva and an elementary microscope."<sup>28</sup> The impetus for her invention came from an experience she had while trying to save the life of one of her ten children.<sup>29</sup> Mikalu combines basic scientific understanding with a deep belief in traditional healing methods. She can explain how saliva is like blood plasma but is also described by the Higher Education and Scientific Research Department of her country as "a spiritualist healer and a conscientious herbalist who is anxious to help the sick."<sup>30</sup>

Both positive and negative consequences follow from women's (albeit under-recognized) presence within the invention paradigm of intellectual property protection. On the positive side, women are combining their cultural knowledge with innovative methods and ideas and are finally gaining recognition for their creative capabilities, as demonstrated in the Moussa case studies above. They are also working to prove themselves the equals of the male scientists who have dominated the field for so long.<sup>31</sup> In addition, some women are gaining compensation for their ideas and holding ownership rights to their discoveries.<sup>32</sup> Thus, this Comment would by no means disparage the accomplishments of female scientists who succeed as creators of innovative knowledge.

On the negative side, however, the majority of women holders of knowledge cannot access and inhabit the inventor role. It can be argued that the problems with female invention stem both from misogynistic cultural challenges, as well as, more specifically, from women's lack of access in many parts of the world to the kind of education that would allow them to pursue

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26. *Id.* at 75.

27. *Id.* at 77.

28. *Id.* at 101.

29. *Id.* at 101-102.

30. *Id.* at 103.

31. See, e.g., SHARON BERTSCH MCGRAYNE, *NOBEL PRIZE WOMEN IN SCIENCE: THEIR LIVES, STRUGGLES, AND MOMENTOUS DISCOVERIES* (1993) (chronicling the lives and work of women who have won the Nobel Prize in the sciences). For a discussion of gender in the natural sciences, see generally Sandra Harding, *From the Woman Question in Science to the Science Question in Feminism*, in *FEMINIST THEORY: A READER* 404 (Wendy K. Kolmar & Frances Bartkowski eds., 2d ed. 2005).

32. See, e.g., Waverly W. Ding, Fiona Murray & Toby E. Stuart, *Gender Differences in Patenting in the Academic Life Sciences*, 313 *SCI.* 665, 665 (2006) ("[W]omen faculty members patent at about 40% of the rate of men. We found that the gender gap has improved over time but remains large."). There is a great deal of space for additional research on the gender gap among patent holders, both in the United States and internationally; general conclusions may be drawn from studies like this one, but broader analysis is needed.



careers in invention and research.<sup>33</sup> Additionally, despite the adoption of TRIPs and various efforts to strengthen IP systems,<sup>34</sup> IP enforcement suffers from weak institutionalization in many developing countries.<sup>35</sup> This second problem affects men as well as women<sup>36</sup> but may make it particularly difficult for female inventors to obtain IPRs due to biases in local justice systems.<sup>37</sup>

On a more systemic level, relying solely on the invention paradigm for the recognition of creativity and as a source of IPRs may be particularly detrimental to women. Resignation to the fact that IPRs are often awarded *only* to those who inhabit the invention paradigm would force women to rely solely upon the historically and philosophically masculine ideal of rationality and science in order to gain recognition for their knowledge.<sup>38</sup> This reliance could place women's creativity in "everyday" matters in danger of being ignored or devalued even more than it is today. For this reason, it is potentially damaging to women's status as knowledge producers to focus solely on the invention paradigm to the exclusion of other forms of knowledge.

## PART II: TRADITIONAL KNOWLEDGE AND THE VALUE OF "WOMEN'S WORK"

The invention paradigm outlined in Part I is not the only knowledge paradigm in the world of intellectual property, though it retains a position of dominance.<sup>39</sup> Traditional knowledge has gained ground as an important area of knowledge that must be addressed in any comprehensive discussion of international intellectual property law.<sup>40</sup> The problem of how to recognize traditional knowledge and its often vulnerable producers has intensified with

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33. See Nelly P. Stromquist, *Determinants of Educational Participation and Achievement of Women in the Third World: A Review of the Evidence and a Theoretical Critique*, 59 REV. EDUC. RES. 143 (1989).

34. See World Intellectual Property Organization [WIPO], Regional Bureaus, <http://www.wipo.int/eds/en/> (last visited Nov. 20, 2009) (noting assistance available to developing countries via WIPO's Technical Assistance and Capacity Building Sector).

35. See J. Michael Finger, *Implementing the Uruguay Round Agreements: Problems for Developing Countries*, 24 WORLD ECON. 1097, 1097-1104 (2001); see also Laurence R. Helfer, *Regime Shifting: The TRIPs Agreement and New Dynamics of International Intellectual Property Lawmaking*, 29 YALE J. INT'L L. 1, 23-24 (2004).

36. See, e.g., Michelle Faul, "Lion Sleeps Tonight" Deal Likely to Boost Poor Musicians, ASSOC. PRESS, Mar. 23, 2006 (describing the legal battle between the heirs of the South African man who wrote the song "The Lion Sleeps Tonight" and the music companies who used the song for years without paying any royalties).

37. See David Malcolm, *Women's Access to Justice: Equality Before the Law*, in WOMEN AND THE RULE OF LAW 11, 11 (International Commission of Jurists, Victoria Branch ed., 1999) ("The issue of women's access to justice is inextricably linked to broader gender bias and inherent systemic inequality in the legal system.").

38. See generally GENEVIEVE LLOYD, *THE MAN OF REASON: "MALE" AND "FEMALE" IN WESTERN PHILOSOPHY* (1993) (tracing the "rational man," theories of reason, and the subjugation of "irrationality" and the feminine through the works of predominantly male Western philosophers).

39. See generally TRIPs, *supra* note 1.

40. See IPR Commission Report, *supra* note 13, at 73-78.

the advent of TRIPs and heightened attention directed toward international intellectual property regimes.<sup>41</sup>

### A. *Traditional Knowledge Generally*

Traditional knowledge is a broad term, encompassing any number of different kinds of knowledge held by and passed down to individuals or communities. It is not easy to define:

Whilst the vast majority of the knowledge is old in the sense that it has been handed down through the generations, it is continually refined and new knowledge developed, rather as the modern scientific process proceeds by continual incremental improvement rather than by major leaps forward. . . . The groups that hold traditional knowledge are very diverse . . . . The nature of the knowledge is also diverse: it covers, for example, literary, artistic or scientific works, song, dance, medical treatments and practices and agricultural technologies and techniques.<sup>42</sup>

Examples of traditional knowledge and its conflict with modern international intellectual property regimes often revolve around questions of biopiracy or “bioprospecting” and biological diversity.<sup>43</sup> The signing of the Convention on Biological Diversity and the difficult public health situation with regard to pharmaceutical drug availability (or the lack thereof) in developing countries<sup>44</sup> have helped make genetic resources and traditional plant-based remedies among the most talked-about constituents of the traditional knowledge bundle.<sup>45</sup>

The project of recognizing traditional knowledge IPRs is part of a larger, ongoing concern with colonialism and nature/invention, raw product/finished product, First World/Third World dichotomies. Examples scholars give of the exploitation of traditional knowledge for commercial gain often involve

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41. See Helfer, *supra* note 35, at 18-27.

42. IPR Commission Report, *supra* note 13, at 75. See also World Intellectual Property Organization [WIPO], Indigenous and Community Experiences, [http://www.wipo.int/tk/en/ngoparticipation/ind\\_loc\\_com/index.html](http://www.wipo.int/tk/en/ngoparticipation/ind_loc_com/index.html) (last visited Nov. 20, 2009) (compiling presentations made by indigenous and community representatives to the WIPO Intergovernmental Committee).

43. See, e.g., CORI HAYDEN, WHEN NATURE GOES PUBLIC: THE MAKING AND UNMAKING OF BIOPROSPECTING IN MEXICO (2003) (discussing the problem of corporate “prospecting” for biological resources in Mexico); see also CBD, *supra* note 2, at art. 15, 31 I.L.M. at 828-29 (governing access to genetic resources); Cori Hayden, *Prospecting's Publics*, in PROPERTY IN QUESTION: VALUE TRANSFORMATION IN THE GLOBAL ECONOMY 115 (Katherine Verdery & Caroline Humphrey eds., 2004) (discussing bioprospecting in Mexico).

44. For discussion of this problem, see Jean O. Lanjouw, *Intellectual Property and the Availability of Pharmaceuticals in Poor Countries*, in 3 INNOVATION POLICY AND THE ECON. 91 (Adam B. Jaffe, Josh Lerner & Scott Stern eds., 2003).

45. For example, in one of the seminal collections on traditional knowledge, VALUING LOCAL KNOWLEDGE: INDIGENOUS PEOPLE AND INTELLECTUAL PROPERTY RIGHTS (Stephen B. Brush & Doreen Stabinsky eds., 1996), twelve out of fifteen chapters deal specifically with issues of biodiversity and genetic resources in traditional knowledge. None of the chapters address gender.

victimized indigenous people and aggressive or wealthy exploiters who take the knowledge and use it for profit.<sup>46</sup>

In addition to its association with victims of poverty, colonialism, and underdevelopment (i.e., “primitive” knowledge), traditional knowledge may also be gendered feminine, essentially due to its perceived connection to nature and instinctive, pre-modern knowing. As has been well documented in feminist philosophy and feminist works of science and technology studies (and as mentioned in Part I.B), masculinity is often identified with the rational, the technical, the inventive, and the modern,<sup>47</sup> while femininity is often identified with the natural, the emotional, the irrational, and the intuitive.<sup>48</sup> Unfortunately, the gendered nature of traditional knowledge has, in general, been under-

46. See, e.g., Stephen B. Brush, *Is Common Heritage Outmoded?*, in VALUING LOCAL KNOWLEDGE: INDIGENOUS PEOPLE AND INTELLECTUAL PROPERTY RIGHTS, *supra* note 45, at 143-44 (“After a devastating military defeat, a unique national wheat variety was identified and taken by officers of the victorious alien forces. Local farmers and scientists of the vanquished land had discovered a key of modern agriculture and created wheat varieties with a trait that proved to be of immense value to the conquerors. Within a few years most of the wheat grown in the land of the conquerors included genes obtained after the military victory, and they became part of proprietary wheat varieties in the victor’s homeland. At no point in the movement of these genes across cultural and national borders were the rights or interests of the originators of these valuable biological resources recognized.”).

47. Michèle Le Doeuff argues that the gendering of knowledge into this particular binary was not always so. She claims that “intuitive” knowing used to be greatly valued (by thinkers such as Thomas Aquinas) and was thus associated with men; once it lost favor, it became associated with women. Thus the rational man and intuitive, irrational woman are not necessarily uncontested archetypes; according to Le Doeuff, it is simply the case that the dominant sex (for most of Western history, men) claims the more valued knowledge as its own. MICHÈLE LE DOEUFF, *THE SEX OF KNOWING* 5-8 (Kathryn Hamer & Lorraine Code trans., 1998). For a discussion of gender in epistemology more generally, see Miranda Fricker, *Knowledge As Construct: Theorizing the Role of Gender in Knowledge*, in KNOWING THE DIFFERENCE: FEMINIST PERSPECTIVES IN EPISTEMOLOGY 95 (Kathleen Lennon & Margaret Whitford eds., 1994); and Kathleen Lennon & Margaret Whitford, *Introduction to KNOWING THE DIFFERENCE: FEMINIST PERSPECTIVES IN EPISTEMOLOGY*, *supra*, at 1.

48. See LLOYD, *supra* note 38, at 22-28; see also VAL PLUMWOOD, *FEMINISM AND THE MASTERY OF NATURE* 19-20 (1993) (noting the problem of the traditional connection between women and nature but also cautioning feminists against oversimplification); R. A. SYDIE, *NATURAL WOMEN, CULTURED MEN: A FEMINIST PERSPECTIVE ON SOCIOLOGICAL THEORY* 3 (1994) (“The female is associated with the natural world . . . Generic man, in thought and practice, becomes man-the-measure of culture in contrast to, but dependent on, woman as the repository of the natural.”); Sherry B. Ortner, *Is Female to Male as Nature is to Culture?*, in FEMINIST THEORY: A READER, *supra* note 31, at 243-44 (“Woman is being identified with—or, if you will, seems to be a symbol of—something that every culture devalues, something that every culture defines as being of a lower order of existence than itself. Now it seems that there is only one thing that would fit that description, and that is ‘nature’ in the most generalized sense.”).

The relationship between woman and nature has been explored and molded toward feminist and environmentalist ends by proponents of ecofeminism:

It became clear to us that science and technology were not gender neutral . . . [I]n common with many other women, we began to see that the relationship of exploitative dominance between man and nature, . . . and the exploitative and oppressive relationship between men and women that prevails in most patriarchal societies, even modern industrial ones, were closely connected.

MARIA MIES & VANDANA SHIVA, *ECOFEMINISM* 3 (1993). *But see* Cecile Jackson, *Women/Nature or Gender/History? A Critique of Ecofeminist ‘Development,’* 20 J. PEASANT STUDS. 389, 389 (arguing that “[g]ender analysis of environmental relations leads to very different conclusions, of potentially conflicting rather than complementary agendas, for gender struggles and environmental conservation”).

theorized in the science and technology studies literature; however, since traditional knowledge is viewed as natural rather than technical, developed, or invented, it may end up in the "feminine" gender category. In the past few hundred years of Western history and epistemology, the rational has been valued over the natural, since the rational is seen as the product of thought, effort, and will, whereas the natural is considered more instinctive and uncultivated.<sup>49</sup> Therefore, because of these concepts, traditional knowledge may be considered inferior feminine knowledge in contrast to the superior (and valuable) masculine knowledge of the developed, science-driven West.<sup>50</sup>

This split in the valuation of different types of knowledge stems not only from a patriarchal natural-feminine/rational-masculine divide, but also from the vestiges of colonialism, in which the colonizing nations and their associated knowledge viewed colonized societies as natural and undeveloped (gendered feminine):

[U]nder the colonial influence the biological and intellectual heritage of non-Western societies was devalued. The priorities of scientific development and R&D efforts, guided by a Western bias, transformed the plurality of knowledge systems into a *hierarchy* of knowledge systems. When knowledge plurality mutated into knowledge hierarchy, the horizontal ordering of diverse but equally valid systems was converted into a *vertical* ordering of *unequal* systems, and the epistemological foundations of Western knowledge were imposed on non-Western knowledge systems with the result that the latter were invalidated. . . . Indigenous systems of knowledge were defined as inferior, and in fact as unscientific.<sup>51</sup>

We still see the impact of this epistemological hierarchy today: knowledge "development" in the developing world means increasing a country's output of research, science, and research and development,<sup>52</sup> despite the fact that traditional knowledge could also play a role in development.<sup>53</sup> The value bias

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49. See LLOYD, *supra* note 38, at 2 ("Rational knowledge has been construed as a transcending, transformation or control of natural forces; and the feminine has been associated with what rational knowledge transcends, dominates or simply leaves behind.").

50. I recognize that this theory of masculine versus feminine and the valuation of each is predicated on a Western view of gender; given, however, the influence of Western philosophy and culture on much of the rest of the world and the difficulty of constructing a gender paradigm that takes into account all theories of gender across the world, I use the Western paradigm in this Comment.

51. Vandana Shiva, *Foreword: Cultural Diversity and the Politics of Knowledge*, in INDIGENOUS KNOWLEDGES IN GLOBAL CONTEXTS: MULTIPLE READINGS OF OUR WORLD vii, vii (George Jerry Sefa Dei, Budd L. Hall & Dorothy Goldin Rosenberg eds., 2000).

52. For example, WIPO publishes an annual patent report, stating that knowledge about the state of the patent system is necessary to "understanding . . . the role of intellectual property in economic growth and development." World Intellectual Property Organization [WIPO], *World Patent Report: A Statistical Review* iii (2008), available at [http://www.wipo.int/ipstats/en/statistics/patents/wipo\\_pub\\_931.html](http://www.wipo.int/ipstats/en/statistics/patents/wipo_pub_931.html).

53. See, e.g., David N. Zurick, *Traditional Knowledge and Conservation as a Basis for Development in a West Nepal Village*, 10 MOUNTAIN RES. & DEV. 23, 25 (1990) (describing "[t]he roles of traditional environmental knowledge and local conservation efforts in slopeland management and village resource development" in a Nepalese village).

against “natural,” “undeveloped” knowledge applies not only to the knowledge itself, but also to its use and applications:

The economic biases and values against nature, women, and indigenous peoples are captured in this typical analysis of the “unproductiveness” of traditional natural societies: “Production is achieved through human and animal, rather than mechanical, power. Most agriculture is unproductive; human or animal manure may be used but chemical fertilisers and pesticides are unknown . . . For the masses, these conditions mean poverty.”

The assumptions are evident: nature is unproductive; organic agriculture based on nature’s cycles of renewability spells poverty; women and tribal and peasant societies embedded in nature are similarly unproductive, not because it has been demonstrated that in cooperation they produce *less* goods and services for needs, but because it is assumed that “production” takes place only when mediated by technologies for commodity production . . .<sup>54</sup>

Traditional knowledge is not necessarily better than (or even equal to in terms of effectiveness) more industrial, “modern” knowledge; however, since traditional knowledge will likely be a functional part of many communities’ daily lives into the foreseeable future, we should recognize its existence and utility.

In short, the masculine-over-feminine, reason-over-nature, “civilized”-West-over-“ignorant”-postcolonial-nations framework plays a key role in determining how traditional knowledge and indigenous<sup>55</sup> production are talked about, protected, valued, recognized, and prioritized. Since, as the old adage goes, “knowledge is power,” whoever’s knowledge is recognized and valued will probably hold the most power.<sup>56</sup> This point may, in fact, be the single most important thing to understand in order to proceed with a discussion of gender and traditional knowledge.

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It is important to note that by “development” I do not mean simply economic growth or the quantity of income in a particular community. I am also looking to Amartya Sen’s tremendously influential identification of development not simply with economic gain but with freedom and dignity, AMARTYA SEN, *DEVELOPMENT AS FREEDOM* (1999), as well as Martha Nussbaum’s similarly influential identification of development with human “capabilities.” MARTHA C. NUSSBAUM, *WOMEN AND HUMAN DEVELOPMENT* 5 (2001); *see also id.* at 4-15. Traditional knowledge may, from a purely economic standpoint, be less valuable than processed knowledge; however, it plays a tremendous role in the developing world, in a way that is very much linked to “what people are actually able to do and to be.” *Id.* at 5.

54. VANDANA SHIVA, *STAYING ALIVE: WOMEN, ECOLOGY, AND DEVELOPMENT* 4 (1989).

55. This Comment focuses on “traditional knowledge,” which can include but is not necessarily synonymous with indigenous knowledge. For a comprehensive introduction to indigenous knowledge issues, see *INDIGENOUS HERITAGE AND INTELLECTUAL PROPERTY: GENETIC RESOURCES, TRADITIONAL KNOWLEDGE AND FOLKLORE* (Silke von Lewinski ed., 2d ed. 2008).

56. *See* Madhavi Sunder, *Introduction* to *GENDER AND FEMINIST THEORY IN LAW AND SOCIETY* xi, xi (Madhavi Sunder ed., 2007) (“Feminist confrontations in the twenty-first century will not be about access to physical space, but to discursive space. Recognizing that, in a Knowledge Age, economic and cultural power flow from producing discourse, the crucial question will be: who will have the power to contest and produce knowledge of the world?”).

*B. The Intersection of Traditional Knowledge and Women's Knowledge*

In a Venn diagram showing the relationship between traditional knowledge and women's knowledge, the two circles would overlap but neither would fully contain the other. There is traditional knowledge which is not held solely or traditionally by women,<sup>57</sup> and there is knowledge created and held by women which is not necessarily part of an ongoing knowledge tradition in their communities (for example, the work of female researchers in modern laboratories). On the whole, at the present time the areas are ranked in order of attention and importance in the following way: first, traditional knowledge not attributed primarily to women (especially relating to biological and genetic resources) and nontraditional women's knowledge<sup>58</sup> (particularly the work of women scientists, who are still generally considered to be an unusual

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57. In fact, a great deal of traditional knowledge does not fall into a male/female dichotomy. Traditional knowledge may be held primarily by men or by both sexes. For an example of traditional knowledge held by men, see Boatema Boateng, *Walking the Tradition-Modernity Tightrope: Gender Contradictions in Textile Production and Intellectual Property Law in Ghana*, 15 AM. U. J. GENDER SOC. POL'Y & L. 341 (2007), which describes Ghanaian men's production of traditional *kente* and *adrinka* cloth and the ways in which these textiles have gained intellectual property protections. As an example of the latter, in many developing nations, farming technologies and approaches may lie in the hands of both sexes, though farming responsibilities may be subdivided along gendered lines. See, e.g., Urmilla Bob, *Rural Women and Technology in South Africa: Case Studies from KwaZulu-Natal Province*, 61 GEOJOURNAL 291, 291 (2004) ("[T]he use of technologies are [sic] highly gendered and differentiated among women. Poor rural women utilize a range of technologies in both productive and reproductive activities which are central to their livelihood strategies, especially at the household level. Furthermore, although women are adapting and innovating technologies their expertise remains largely unrecognized."); cf. STANLEY, *supra* note 21, at 1 ("Anthropologists now generally agree that women invented agriculture."); Even in *Farming, Women are Marginalised*, THE NATION (Nigeria), Nov. 22, 2009, <http://thenationonlineng.net/web2/articles/14027/1/Even-in-farming-women-are-marginalised/Page1.html> ("According to the [FAO], women produce more than eighty percent of basic foodstuffs for household consumption and marketing in Sub-Saharan Africa."); Diana Gabriela Lope-Alzina, *Gendered Production Spaces and Crop Varietal Selection: Case Study in Yucatán, Mexico*, 28 SING. J. TROP. GEO. 21 (2007) ("[T]he traditional production spaces of homegardens and agricultural fields are complementary gendered domains of varietal maintenance for both crops although with different cropping patterns, while a 'new' space of land allocated to some families for future residential construction (*terreno*) is in the meantime a jointly worked agricultural domain. Women's labour, knowledge and preferences predominate in post-harvest processes. Fieldwork revealed that neither men nor women are independent decision-makers, planning what to grow, where and in what amounts, but that in most aspects of farming the interests of both are accommodated within the household's production spaces."); Martina A. Padmanabhan, *The Making and Unmaking of Gendered Crops in Northern Ghana*, 28 SING. J. TROP. GEO. 57, 57 (2007) ("In rural West Africa, the gendered division of labour extends to labelling certain crops as 'male' or 'female.'").

58. I do not advocate ignoring this nontraditional knowledge created by women working within the invention paradigm. Indeed, I believe that it would be generally beneficial to emphasize the fact that women's knowledge spans the spectrum of knowledge types. Perhaps this is one way to avoid the "raw" and "cooked" division between traditional and nontraditional knowledges—rather than plugging women and men into their respective sides of a constructed binary (associating women with raw, traditional knowledge produced in collectivity with amorphous origins, and men with cooked, innovative, scientific knowledge molded out of individual genius), I would prefer to make use of the fact that women are active in the invention paradigm to break the gender distinction between knowledge types. For discussion (and problematization) of the "raw" and "cooked" paradigm in traditional knowledge, see Madhavi Sunder, *Cultural Environmentalism at 10: The Invention of Traditional Knowledge*, 70 LAW & CONTEMP. PROBS. 97, 107 (2007).

phenomenon); and, at a distant second, women's traditional knowledge<sup>59</sup> (largely unexplored territory and the primary concern of this Comment).

The knowledge contained in this second rung includes many ideas, processes, and practices which are traditionally classified as "women's work," often in fields such as textile production,<sup>60</sup> food production, some farming methods, child care, cosmetics, and healing (though none of these fields is universally gendered feminine). In fact, Autumn Stanley notes:

[W]omen hold up two-thirds of the sky. The two-thirds fraction was chosen advisedly, to reflect findings from the United Nations studies of time budgets for the two sexes worldwide, from anthropology, and from personal experience and observation to the effect that women do considerably more than their share of the work of the world. Two-thirds seems a reasonable estimate.<sup>61</sup>

Ironically (given that women do two-thirds of the work), women earn "on average, two-thirds of what men do."<sup>62</sup> Of course, not all women's work stems from the kind of traditional knowledge that might lend itself to intellectual property protection. Some of the knowledge employed in women's work (or its actual constituent tasks) has historically gone unrecognized; for example, "[a]nthropologists now generally agree that women invented agriculture."<sup>63</sup> Much of this work still goes unnoticed by modern eyes. Some traditional women's products, however, such as the quilts produced by the African-American women of Gee's Bend, Alabama,<sup>64</sup> and the baskets woven by Rwandan women,<sup>65</sup> have actually entered the world market. With commodification and earnings come an interest in legal rights and questions regarding commodification's interaction with feminist values. In cases like those named above, women have attained some rights to culturally-fostered knowledge—or at least some remuneration for the products of such knowledge.

59. I realize that one risk inherent in emphasizing the existence of "women's traditional knowledge" is the creation of a knowledge category that is doubly gendered (via both the gendered philosophical associations with traditional knowledge and the sex of its authors) and thus doubly devalued. However, to pretend that women are not subject to gendered categories and value hierarchies due to their sex and, oftentimes, due to the nature of their labor is to avoid the obvious. For an excellent analysis of the gendered binaries within IP law that often entrap women, see Dan L. Burk, *Feminism and Dualism in Intellectual Property*, 15 AM. U. J. GENDER SOC. POL'Y & L. 183 (2006-07).

60. See, e.g., Victoria F. Phillips, *Commodification, Intellectual Property and the Quilters of Gee's Bend*, 15 AM. U. J. GENDER SOC. POL'Y & L. 359 (2007) (describing the distinctive quilts produced by African-American women in Gee's Bend, Alabama, and their introduction into the mass market).

61. STANLEY, *supra* note 21, at xxi.

62. Martha Chen, *Introduction to SEEDS 2: SUPPORTING WOMEN'S WORK AROUND THE WORLD 1*, 3 (Ann Leonard ed., 1995).

63. *Id.* at 1. Women are still very present in the field of agriculture, both literally and figuratively. See, e.g., Jennifer H. Bain, *Mexican Rural Women's Knowledge of the Environment*, 9 MEX. STUD. / ESTUD. MEX. 259 (Summer 1993); see also *supra* note 57.

64. See Phillips, *supra* note 60, at 374-75.

65. See Stephen Tumusiime, *Changing Lives—Rwandan Women Take Up Basket Weaving to Global Markets*, NEW TIMES (Rwanda), Oct. 2, 2008, available at <http://allafrica.com/stories/200810020289.html> (describing how women in Rwanda sell traditionally-woven baskets to Macy's in the United States, using the weaving "as their savior and bread winner").

Historically, the largest barrier to intellectual property for women was not the law in and of itself, but women's socioeconomic status and attendant problems of gaining *access* to rights in the law:

There was nothing in the law that precluded women from the Founding Fathers' concern with property rights . . . . By remaining silent on gender, the Patent Act of 1790, one of the first pieces of legislation of the newly constituted Congress, therefore offered women the same patenting privileges as men, though the serious social, psychological, and economic obstacles that stood in women's paths prevented them from availing themselves of those privileges for some years . . . .<sup>66</sup>

Though these *de facto* barriers to patenting have in large part been lifted for women working within the invention paradigm (at least in the developed world), the new "social, psychological, and economic obstacles" to women's attainment of IPRs stem from the type of knowledge in question. If a woman creates knowledge within the male-dominated invention paradigm, she may well receive a patent for the invention. But if a woman wants recognition within the framework of property law for knowledge that her mother passed down to her and which she uses in common with other women in her community, she may be out of luck.<sup>67</sup> Women still lack the ability to gain recognition as authors of their knowledge when such knowledge is inextricably linked to the community of women and passed down through generations.

Of course, identifying "women's traditional knowledge" carries with it special problems: first, it may be difficult to delineate what is men's knowledge and what is women's knowledge;<sup>68</sup> second, it is possible that men have appropriated ideas that were originally part of women's knowledge but which were taken over by men when they proved to be profitable or useful.<sup>69</sup> The first problem has no easy answer. Clearly, there are few areas of knowledge that may be strictly attributed to one sex or the other. However, there are certainly general categories that are largely associated with women (weaving, housework, cooking, and childcare, with other fields of knowledge or expertise

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66. MACDONALD, *supra* note 21, at 3-4.

67. Of course, the same difficulties in gaining recognition for traditional knowledge may just as easily apply to men; *see* Finger, *supra* note 35 (addressing problems surrounding the implementation of TRIPs provisions in the developing world). Women, however, are doubly hurt by this fact because often they are already less visible and afforded less social value than men, even before IPRs are brought into the picture; *see* NUSSBAUM, *supra* note 53, at 1 ("Depressingly many traditions have portrayed women as less important than men, less deserving of basic life support, or of fundamental rights that are strongly correlated with quality of life, such as the right to work and the right to political participation.").

68. *See, e.g.*, C.H. Browner, *Gender Politics in the Distribution of Therapeutic Herbal Knowledge*, 5 MED. ANTHROPOLOG. Q. (NEW SERIES) 99, 99, 106 (1991) ("Data on the distribution of knowledge about medicinal plants in an indigenous Mexican community challenge several assumptions at the heart of medical anthropology concerning the distribution of the therapeutic herbal knowledge. Contrary to expectation, many men in the community were knowledgeable about medicines for managing reproduction and women's reproductive health problems."); *see also supra* note 57 (discussing the gendering of knowledge with respect to agriculture).

69. *See, e.g.*, STANLEY, *supra* note 21, at 1-2 (describing how the female invention of agriculture gave way to "the myth of Man the Hunter/Provider").



differing by culture), and there are specific forms of knowledge which may be identified as originating within an “authoring” community of women (for example, the Gee’s Bend quilters were specifically African-American women).<sup>70</sup>

As to the second problem—that men may already have appropriated all of the useful or profitable knowledge for themselves—I do not see this as a problem except insofar as it may mean that women’s knowledge is less economically profitable. I do not argue here that economic gain should be the primary motivation for recognizing women’s contributions to the knowledge of the world. Rather, I see recognition as imperative from a feminist (rather than a purely economic) perspective, a point that I discuss in the following Section.

### C. *Women’s Knowledge in Feminist Perspective*

“I shall argue that international political and economic thought should be feminist, attentive (among other things) to the special problems women face because of sex in more or less every nation in the world.”<sup>71</sup> Thus writes feminist philosopher extraordinaire Martha Nussbaum. I believe that the word “legal” should be inserted, so that we may be feminist in international political, economic, and *legal* thought. I come back to Enloe’s question (“Where are the women?”)<sup>72</sup> and, taking Nussbaum to heart, ask: once we see the women, what next? This Section will present a feminist analysis of women’s traditional knowledge and explain why recognition of such knowledge is essential to the pursuit of women’s rights, equality, and welfare.

One of the ways in which women are subordinated to men is through the devaluation of their work.<sup>73</sup> If the knowledge that women pass down and the contributions they make to their communities are seen as less valuable (and less worthy of legal protection or recognition) than the often male-dominated fields of science, research, and patents, their overall status (and well-being) may suffer. Therefore, recognition and protection of women’s traditional knowledge can not only draw attention to the fact that such knowledge is an integral part of communities, but also value women’s work and bring women (especially women in developing nations) out of the dark corners of intellectual property law.

A possible critique is that, by recognizing women’s traditional knowledge as such, we may further stereotype and stigmatize women’s work—fortifying

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70. See Phillips, *supra* note 60.

71. NUSSBAUM, *supra* note 53, at 4.

72. See ENLOE, *supra* note 3, at 7.

73. See generally ALICE A. KEMP, *WOMEN’S WORK: DEGRADED AND DEVALUED* (1994) (providing a socialist feminist analysis of all types of work, both inside and outside the home, done by women in the United States, arguing that each area of work performed by women is devalued in comparison to work more traditionally performed by men).

the view that women mainly act in the domestic sphere, rather than participating in modern science, economic development, and other interactions beyond the village. Clearly, we do not want to *confine* women to traditional knowledge or to any particular sphere of ideas. My reply to this problem is primarily pragmatic: should we ignore so many of the women helping to “hold up the sky” for fear of some people’s overgeneralizations? Recognizing women’s traditional knowledge does not mean that this is all there is; it is still viable, even desirable, to recognize women’s achievements within the invention paradigm—within every sphere of women’s knowing.

However, the lack of recognition of women’s traditional knowledge is a gaping hole in analyses and narratives of both women’s knowledge (which focus on female scientists and inventors, the islands of achievement in a male-dominated field) and traditional knowledge (which tend to focus on specific subject areas such as biodiversity or traditional medicine, turning a blind eye toward gendered analysis).<sup>74</sup> This gap must be filled, lest the women who are the keepers and innovators of traditional knowledge be ignored entirely by property law.

To recognize authorship and “ownership” of women’s traditional knowledge is to give such knowledge new status and prominence. After all, “[f]eminism’s most compelling epistemological insight lies in the connections it has made between knowledge and power. . . . [through] the recognition that legitimation of knowledge-claims is intimately tied to networks of domination and exclusion.”<sup>75</sup> Recognizing and legitimating women’s claims to the knowledge that they and their communities hold may aid in elevating women’s status from that of the dominated and in remedying their frequent exclusion from the world of property rights and recognition for achievements.

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74. One interesting exception to this traditional knowledge gender blindness is found in a 2002 article by anthropologist Shubhra Gururani: “Indigenous knowledge, I would argue, is now being mapped onto the images and bodies of Third World rural women, and rural women (who may be farmers, market women, or craftswomen) are in general being *indigenized* in the development discourse.” Shubhra Gururani, *Construction of Third World Women’s Knowledge in the Development Discourse*, 54 INT’L SOC. SCI. J. 313, 314 (2002). Gururani claims that traditional knowledge is becoming gendered since some development agencies are beginning to connect their agendas on gender to their agendas on indigenous know-how. See *infra* Part III.A. She then proceeds to problematize this connection and to identify some of the problems of equating traditional knowledge with women. I, however, think that she overstates the case; hers was the only article I found on women and traditional knowledge generally (outside of anthropological studies written on specific communities and specific women), which attests to the lack of awareness about women’s traditional knowledge. Additionally, what Gururani discusses is not so much the recognition of *women’s* traditional knowledge (attention to the knowledge held by women), but rather the *feminization* or gendering of traditional knowledge. See *supra* Part II.A.

75. Lennon & Whitford, *supra* note 47, at 1.

## PART III: PROTECTING WOMEN'S KNOWLEDGE IN PRACTICE

Ending gender inequality is a major goal of today's international law, at least on paper. The Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) went into force in 1981, yet its goals have yet to be realized.<sup>76</sup> A major goal of international law must be the progressive elimination of discrimination against women, and women's traditional knowledge should not be an exception. Inequality between the sexes "afflicts—and sometimes prematurely ends—the lives of millions of women, and, in different ways, severely restricts the substantive freedoms that women enjoy."<sup>77</sup>

This Part will place women's traditional knowledge within the context of international law on gender equality, thereby demonstrating that recognizing women's knowledge is not only a feminist imperative, but also is called for by the United Nations' own enumerated development goals. It will then identify major principles and questions that should guide our approach to women's knowledge as its own form of intellectual property. Finally, I will use these principles to analyze and evaluate three major intellectual property frameworks: the public domain, patents and licensing, and geographical indications. Within these sections, I will make policy recommendations for future action.

*A. Women's Knowledge in Context: The Global Gender Agenda*

The United Nations Millennium Development Goals list "[p]romot[ing] gender equality and empower[ing] women" as the third of eight goals.<sup>78</sup> Perhaps in response to this goal, some organizations which address traditional knowledge in one form or another are becoming aware of the presence of gender in the realm of traditional knowledge,<sup>79</sup> though WIPO's Development Agenda still makes no reference to gender.<sup>80</sup> There is a disconnect between the general desire to promote gender equality and the specific inclusion of it as a goal within the world of intellectual property. It may be that women trouble the boundaries of authorship and invention when they possess knowledge specific to their gender community, as IP is unaccustomed to recognizing gender. This

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76. Convention on the Elimination of All Forms of Discrimination Against Women, Dec. 18, 1979, 1249 U.N.T.S. 13 (entered into force Sept. 3, 1981) [hereinafter CEDAW].

77. SEN, *supra* note 53, at 15.

78. MDGs, *supra* note 4.

79. "Several major environmental and development agencies like the World Bank, United States Agency for International Development (USAID), International Development Research Centre (IDRC), World Wildlife Fund (WWF), Food and Agricultural Organisation's (FAO) LinKS Project among many others have special programmes that have an explicit commitment to incorporate gender and indigenous knowledge in their development projects." Gururani, *supra* note 74, at 313 (citation omitted).

80. World Intellectual Property Organization [WIPO], Development Agenda for WIPO (2007), available at <http://www.wipo.int/ip-development/en/agenda/> [hereinafter Development Agenda].

gendered lens, aimed toward traditional knowledge, must result not simply in theorizing about gendered authorship but in practical recommendations. Recognizing women's knowledge within the framework of international intellectual property law is a feminist project and requires real-world principles that may be applied to real women and real communities.

What are the main issues that come to the fore when we speak of gender inequality? Generally, there are two primary elements: socioeconomic inequality (relating to women's status and power, including consumptive power, in society)<sup>81</sup> and political inequality (relating to women's rights and power in the political arena).<sup>82</sup> Goals that seek to advance women should take both types of inequality into account, though they need not address both at the same time. This Comment makes recommendations pertaining to the first category, socioeconomic inequality. Political inequality often follows from the inferior social status that many women experience within their societies,<sup>83</sup> so addressing the first category is doubly useful, both for its inherent value and for the effect that it may have on women's political standing. Shaping principles for recognizing and protecting women's knowledge must take into account women's often inferior standing within many social power structures, as well as the feminization of poverty and women's overall lack of possession of or control over economic resources.<sup>84</sup>

In general, the project of recognition for women's knowledge is motivated by fairly traditional feminist tenets: to bring greater value to women and their contribution to society by exposing the injustice of current inequalities<sup>85</sup> and to empower women to take a step up the power ladder.<sup>86</sup>

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81. Examples of socioeconomic inequality include the feminization of poverty (higher poverty rates among women) and differences in wages paid to men and women. See Sharan Burrow, *Foreword to INTERNATIONAL TRADE UNION CONFEDERATION, THE GLOBAL GENDER PAY GAP 7, 7* (2008), available at <http://www.ituc-csi.org/IMG/pdf/gap-1.pdf> ("Despite decades of anti-discrimination legislation and changes in company rhetoric, women, whether they are in New York or Shanghai, find their pay cheque contains on average sixteen percent less than male co-workers."); Chen, *supra* note 62, at 3-6 (describing the feminization of poverty and giving statistics and reasons for the phenomenon).

82. Two of the most prominent examples of political rights are the right to vote and the right to run for elected office. See Inter-Parliamentary Union, *Women's Suffrage*, <http://www.ipu.org/wmn-e/suffrage.htm> (last visited Nov. 20, 2009) (giving world timeline of women's attainment of suffrage rights); Inter-Parliamentary Union, *Women in National Parliaments*, <http://www.ipu.org/wmn-e/classif.htm> (last visited Nov. 20, 2009) (ranking 187 countries by percentage of women sitting in the national parliament; only one country had more than half, and eleven countries had less than one percent).

83. See generally Sidney Verba, *Would the Dream of Political Equality Turn Out To Be a Nightmare?*, 1 PERSP. ON POL. 663, 675 (2003) ("The socioeconomic basis of political inequality makes clear that this is a form of 'durable inequality.' . . . [P]olitical inequality is transmitted from generation to generation, in large part through the inheritance of socioeconomic position." (citation omitted)).

84. See Chen, *supra* note 62, at 3-6 (discussing the feminization of poverty and women's status); United Nations Development Fund for Women (UNIFEM), *Progress of the World's Women*, <http://www.unifem.org/resources/progress.php> (last visited Nov. 20, 2009) (providing reports on the status and progress of women globally in the fields of economics, politics, health, and more).

85. See Sarah Grimké, *From Letters on the Equality of the Sexes and the Condition of Women*, in FEMINIST THEORY: A READER, *supra* note 31, at 69, 70 ("There is another way in which the general opinion, that women are inferior to men, is manifested . . . I allude to the disproportionate value set on

*B. Principles and Protections*<sup>87</sup>

Scholar Johanna Gibson writes,

Indigenous and traditional cultural production and knowledges present commercial potential in the context of international trade, and particular cultural and social value that is specific to local communities. In the past, the appropriation of that knowledge, deemed “natural” and for the benefit of all, was justified on the basis that such knowledge was not necessarily comprehended as creative or personal, as it were, within the dominant legal and social discourse. However, recently the denial of “ownership” has been refuted and calls have been made for the protection of that knowledge, not only as a matter of property, but also, and more importantly as a matter of intrinsic importance to the dignity and cohesion of traditional and Indigenous communities. Inevitably, these calls seem to resonate within intellectual property systems, informed particularly by the potential value of trade in traditional knowledge.<sup>88</sup>

As Gibson notes, now that traditional knowledge has become a major topic of intellectual property rights discussion, the means of actually protecting and recognizing traditional knowledge within an IPR framework are ripe for examination and debate. In this Section, I will describe some of the problems with IPR protection for traditional knowledge, outline a few major principles to guide evaluation of potential IPRs for women’s traditional knowledge, and then apply these principles to three current intellectual property frameworks: the public domain, patents and licensing, and geographical indications. Two main policy recommendations emerge from this discussion: creation of a “public domain plus” system, under which entities planning to create products whose roots lie in women’s traditional knowledge would voluntarily recognize and remit a portion of profits to the knowledge’s originators, and the creation of more expansive traditional knowledge databases that would catalog traditional knowledge products and processes, including a “tag” indicating gender, along

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the time and labor of men and of women. . . . [Multiple examples of this disproportionate valuation] evince the low estimation in which woman is held.”)

86. See ROSEMARIE PUTNAM TONG, *FEMINIST THOUGHT: A MORE COMPREHENSIVE INTRODUCTION* 10-26 (2d ed. 1998) (discussing liberal feminism’s dedication to increasing economic and political rights and opportunities for women).

87. One important qualification is necessary as the reader begins the “policy” section of this Comment: my goal here is to describe how women’s traditional knowledge would fare within IPR frameworks *as they exist now*. This is not to say that IPRs in their current form do not require reform; however, detailing the ways in which standard Western IPRs disadvantage women or are equitable or inequitable in a broader sense would be another (and much longer) article. For an argument that the current (Western) system of IPRs unjustly fails to protect traditional knowledge, see Graham Dutfield, *The Public and Private Domains: Intellectual Property Rights in Traditional Knowledge*, 21 *SCI. COMM.* 274, 288-90 (2000).

88. JOHANNA GIBSON, *COMMUNITY RESOURCES: INTELLECTUAL PROPERTY, INTERNATIONAL TRADE AND PROTECTION OF TRADITIONAL KNOWLEDGE* 1 (2005).

with a requirement that such databases be searched as part of establishing novelty when a patent application is filed.

As noted above, traditional knowledge and how to protect it have grown into their own subset of IP scholarship, with some countries implementing legal protections for traditional knowledge.<sup>89</sup> Stephen Brush identifies what he calls the “common-heritage principle”<sup>90</sup> of traditional knowledge and argues that such common heritage is not incompatible with capitalism and capitalist legal regimes.<sup>91</sup> Like many scholars, Brush identifies a key conceptual problem with modern IP in the context of the “collective invention” of ideas: “Suppose that the farmers of Japan, in concert with agricultural scientists, could obtain exclusionary intellectual property control over the dwarfing gene that could help to feed the world’s population. . . . [W]hat becomes of crop-improvement programs that have used genes as public goods and freely distributed new seeds?”<sup>92</sup> In other words, how do we balance knowledge property rights with the common good?

One of the key elements of this problem is the *exclusionary* nature of IPRs such as patents. In the now-infamous Golden Rice example, a group of scientists genetically engineered rice to contain more Vitamin A. This rice could potentially help prevent blindness in the developing world, but its release into the market was bogged down by a plethora of patents, all of whose holders had to grant permission (a license) to use their specific patented item before the rice could be of any public use.<sup>93</sup> There is an important lesson encapsulated within the Golden Rice example: there should always be a wise balance between the desire to protect the right to property and the need for development and redistributive justice. When one is sacrificed to the other, the end result may simply be that no one is happy and no justice has been done.<sup>94</sup>

Keeping these potential issues in mind, four principles will be useful in the analysis and application of an IP policy framework for women’s traditional knowledge: 1) the need for redistribution and awareness of the massive

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89. See, e.g., Manuel Ruiz, Isabel LaPeña & Susanna E. Clark, *The Protection of Traditional Knowledge in Peru: A Comparative Perspective*, 3 WASH. U. GLOBAL STUD. L. REV. 755 (2004) (analyzing “the policy and legal context for the protection of traditional knowledge, focusing on Peruvian Law 27811, Regime for the Protection of Indigenous Peoples’ Collective Knowledge Associated with Biodiversity . . . as a case study”).

90. Brush, *supra* note 46, at 148-49 (“Both the tradition and definition of science assert that findings cannot be exclusively possessed and that the property interests of scientists are limited to prestige and recognition.”). This principle clearly does not apply in the modern intellectual property system.

91. *Id.* at 161.

92. *Id.*

93. See Ingo Potrykus, *Golden Rice and Beyond*, 125 PLANT PHYSIOLOGY 1157, 1158-60 (2001).

94. Lest the use of the Golden Rice example mislead the reader to a conclusion that only innovative knowledge is truly “relevant” in the modern world when it comes to solving problems in developing nations, see, for example, Daniel A. Offiong, *Traditional Healers in the Nigerian Health Care Delivery System and the Debate Over Integrating Traditional and Scientific Medicine*, 72 ANTHROPOLOGICAL Q. 118 (1999). Traditional knowledge retains its importance to the health, development, and community welfare of many postcolonial nations.

differentials in the global distribution of power and resources;<sup>95</sup> 2) the need for IP to serve development<sup>96</sup> (both economically and in terms of Nussbaum's capabilities theory<sup>97</sup> and Sen's concept of development as freedom<sup>98</sup>); 3) the feminist commitment to increasing the valuation of women and their contribution to society;<sup>99</sup> and 4) empowering women to achieve community development and economic sustainability.<sup>100</sup> Note that these principles are merely used to examine and evaluate IP frameworks through a gendered lens; this Comment does not argue that women's traditional knowledge is "special" and therefore deserving of higher protection than other forms of knowledge, but rather that gender has been a blind spot in the traditional knowledge discourse. Applying these principles brings women and the knowledge they hold into the traditional knowledge equation and takes their interests into account in evaluating potential approaches to recognition and protection.

I will apply these principles to three frameworks within the existing international IP system, keeping in mind a few additional questions: "What can be done to recognize the contributions of past generations to building the foundations of modern advances? Can such recognition be part of the existing intellectual property rights system? If so, how can this be done?"<sup>101</sup>

Before proceeding, a clarification seems necessary regarding economic gain from women's traditional knowledge: while women's traditional

95. See generally U.N. Dept. Econ. & Soc. Affairs [DESA], *Report of the World Situation 2005: The Inequality Predicament*, A/60/117/Rev.1 (2005) (examining "trends and patterns in economic and non-economic aspects of inequality and . . . their causes and consequences"); Organisation for Economic Co-operation & Development (OECD), OECD Stat Extracts: Income Distribution—Inequality, <http://stats.oecd.org/Index.aspx?QueryId=11353> (last visited Nov. 20, 2009) (statistics on unequal income distribution); University of California Santa Cruz, UC Atlas of Global Inequality, <http://ucatlus.ucsc.edu/home.html> (last visited Nov. 20, 2009) (illustrating "some aspects of inequality using online, downloadable maps and graphics").

96. See Keith Aoki, *Distributive and Syncretic Moves in Intellectual Property Law*, 40 U.C. DAVIS L. REV. 717, 726-738; see also Margaret Chon, *Intellectual Property and the Development Divide*, 27 CARDOZO L. REV. 2821 (2006) (proposing "a normative principle of global intellectual property—one that is responsive to development paradigms that have moved far beyond simple utilitarian measures of social welfare").

97. See NUSSBAUM, *supra* note 53.

98. See SEN, *supra* note 53.

99. I am by no means inventing anything new by linking "identity politics" (here women and gender identity) to IPRs; as Madhavi Sunder writes, "The linking of identity politics to intellectual property brings social movements back, full circle, to redistribution: diverse authors and inventors seek to benefit materially from their cultural production, especially where recognition and material benefit were denied in the past." Madhavi Sunder, *IP*<sup>3</sup>, 59 STAN. L. REV. 257, 269 (2006).

100. Of course, any economic benefits from women's traditional knowledge carry with them the possible problem of male exploitation—the risk that men in traditional societies will take advantage of the earnings that women gain. For a treatment of some of the problems experienced in microfinance projects targeted at women, see Susan Johnson & Thalia Kidder, *Globalization and Gender—Dilemmas for Microfinance Organizations*, 10 SMALL ENTERPRISE DEVEL. 4 (1999). This problem bears consideration but is outside the scope of this Comment. Additionally, as mentioned, the principles outlined here are not principally concerned with generating income.

101. Surendra J. Patel, *Can the Intellectual Property Rights System Serve the Interests of Indigenous Knowledge?*, in VALUING LOCAL KNOWLEDGE: INDIGENOUS PEOPLE AND INTELLECTUAL PROPERTY RIGHTS, *supra* note 45, at 305, 306.

knowledge can in some cases lend itself to becoming a source of income for women,<sup>102</sup> commodification does present its own set of dangers to the feminist project, particularly in its simplest incarnation: “The archetype of universal commodification presents a one-dimensional world of value. From the perspective of universal commodification, all things desired or valued—from personal attributes to good government—are commodities.”<sup>103</sup> Many feminists might resist embracing such commodification of women's traditional knowledge, as such commodification represents a kind of hyper-rational (historically masculine) and calculating quantification that may degrade the dignity of producers and their products.<sup>104</sup> This concern should be taken into account before leaping headlong into a project of granting women exclusive, patent-like property rights to their traditional knowledge (even if such a thing were possible, which, I conclude below, it is not). In addition, I find the *feminist* reasons for supporting recognition of women's traditional knowledge as compelling as the economic ones. Much of the discourse about protection for traditional knowledge is concerned with recognizing knowledge that has been unjustly overlooked, not with the potential income which traditional knowledge could bring.<sup>105</sup> Knowledge may often serve a dual purpose of fueling both economic and social value; I see no reason not to promote both functions.

### 1. *The Public Domain*

The public domain could potentially be viewed as a good choice of knowledge framework for traditional knowledge, identified as it is with freedom and equality of access. The public domain is by its nature equally available to all who would use the information contained within it.<sup>106</sup> Thus it

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102. See, e.g., Tumusiime, *supra* note 65. Possible roadblocks to making direct remuneration for the products of women's traditional knowledge plausible and just include: 1) concretely identifying the makers or authors of the knowledge; 2) distributing the earnings fairly; and 3) making sure that earnings are not simply appropriated by men (a very real danger in highly patriarchal traditional societies).

103. MARGARET J. RADIN, *CONTESTED COMMODITIES* 2 (1996). See also Phillips, *supra* note 60, at 370-77 (applying commodification theories, including Radin's, to the case study of the quilts of Gee's Bend). For a discussion of “heritage as property” and the problems associated with it, see Michael F. Brown, *Heritage as Property*, in *PROPERTY IN QUESTION: VALUE TRANSFORMATION IN THE GLOBAL ECONOMY*, *supra* note 43, at 49.

104. See RADIN, *supra* note 103, at 79-85, 154-63 (exploring the effects of commodification on “human flourishing” and exploring “commodification, objectification, and subordination”); see also HALBERT, *supra* note 11, at 5 (“I cannot help but think something has been lost when the world embraces the idea of private property as the dominant paradigm to control all aspects of our creative lives: when everything becomes a commodity and everyone becomes a consumer.”); Gregory K. Schlais, *The Patenting of Sacred Biological Resources, the Taro Patent Controversy in Hawai'i: A Soft Law Proposal*, 29 U. HAW. L. REV. 581 (2006-2007) (describing opposition to the patenting and commodification of taro, a plant considered sacred by the indigenous peoples of Hawaii).

105. See GIBSON, *supra* note 88, at 1 (“[C]alls have been made for the protection of [traditional] knowledge, not only as a matter of property, but also, and more importantly as a matter of intrinsic importance to the dignity and cohesion of traditional and Indigenous communities.”).

106. See generally JAMES BOYLE, *THE PUBLIC DOMAIN: ENCLOSING THE COMMONS OF THE MIND* (2008); LAWRENCE LESSIG, *FREE CULTURE: HOW BIG MEDIA USES TECHNOLOGY AND THE LAW TO*



would seem to conform to Principles 1 and 2, as access is not facially dependent on the user's financial resources and the knowledge could be used for development by those too poor to pay for it. It does not, however, meet the gender-specific goals, Principles 3 and 4; women would not necessarily gain any particular credit for their work and ideas, nor would they gain any remuneration that might be used for economic advancement and community development.

Additionally, the "equal access" nature of the public domain may not be so equal; more frequently, it is the developed world that has the capital and infrastructure to exploit the knowledge contained in the public domain, often converting that knowledge into patentable innovation.<sup>107</sup> The equal access vision of the public domain may be more romanticization than reality.<sup>108</sup>

One way in which the public domain might be useful as a framework for women's traditional knowledge would be as a basis on which to build what I will call a "public domain plus" regime. Such a regime would leave the knowledge in the public domain, free from the threat of enclosure by private entities for their exclusive use, but would tack on a new requirement: anyone using the knowledge or product could do so *but* would need to give public

LOCK DOWN CULTURE AND CONTROL CREATIVITY (2004); David Lange, *Reimagining the Public Domain*, 66 LAW & CONTEMP. PROBS. 463, 470 (2003) (casting the public domain as "a place of refuge for creative expression").

An additional justification for the public domain categorization of traditional knowledge and other forms of knowledge with "collective" sources (communities or societies rather than individuals) is that such knowledge is unsuited to traditional IPR ownership. See Kibet A. Ng'etich, *Indigenous Knowledge, Alternative Medicine and Intellectual Property Rights Concerns in Kenya*, at 5, paper presented at the 11th General Assembly of the Council for the Development of Social Science Research in Africa (CODESRIA), Maputo, Mozambique, Dec. 6-10, 2005, available at [http://www.codesria.org/Links/conferences/general\\_assembly11/papers/ngetich.pdf](http://www.codesria.org/Links/conferences/general_assembly11/papers/ngetich.pdf) ("In the Kenyan situation where traditional medical knowledge is largely distributed and a common possession, complex issues of entitlement to any possible intellectual property rights also arise, because the Western IPRs systems do not provide for the granting of rights to communities."). See also Ikechi Mgbeoji, *Patents and Traditional Knowledge of the Uses of Plants: Is a Communal Patent Regime Part of the Solution to the Scourge of Bio Piracy?*, 9 IND. J. GLOBAL LEGAL STUD. 163 (2001) (discussing the possibility of "communal patents" tailored to traditional knowledge as a means of protection against biopiracy).

107. For example, the attempted appropriation of the neem tree of South Asia by Western companies is an iconic illustration of what has come to be known as "biopiracy"—exploitation and enclosure of a locally-known, natural resource for profit. See DARRELL ADDISON POSEY & GRAHAM DUTFIELD, *BEYOND INTELLECTUAL PROPERTY: TOWARD TRADITIONAL RESOURCE RIGHTS FOR INDIGENOUS PEOPLES AND LOCAL COMMUNITIES* 80 (1996) (giving a brief description of the neem appropriation story); Vandana Shiva, *The Neem Tree—A Case History of Biopiracy*, <http://www.twinside.org.sg/title/pir-ch.htm>. Though the European Patent Office eventually withdrew the patent for neem, biopiracy is still a hot topic. See Cormac Sheridan, *EPO Neem Patent Revocation Revives Biopiracy Debate*, 23 NATURE BIOTECHNOLOGY 511 (2005); see also Pusch Commey, *The New Scramble for Africa: Biopiracy*, NEW AFRICAN, Dec. 1, 2003, at 12, available at <http://www.thefreelibrary.com/The+new+scramble+for+Africa%3a+biopiracy%3a+Africa+is+losing+billions+of+...+a0111800832>. For further discussion of biopiracy, see Shiva, *supra* note 51, at ix; Callan Sullivan, *Biopiracy: 'Invention' as Theft*, *The Daily Barometer*, Mar. 7, 2007, <http://media.barometer.orst.edu/media/storage/paper854/news/2007/03/07/Forum/Biopiracy.invention.Via.Theft2762241.shtml>.

108. See Anupam Chander & Madhavi Sunder, *The Romance of the Public Domain*, 92 CAL. L. REV. 1331, 1332 (2004) ("Resourcefully, the romantic public domain trope steps in exactly where the romantic author falters. Where genius cannot justify the property claims of corporations (because the knowledge pre-exists individual claims of authorship), the public domain can.").

recognition to the community of women in which it originated.<sup>109</sup> For example, a company could market a distinctive cloth woven by women of a particular tribe or village, with a statement attached both in marketing materials and on the cloth's label giving credit to the women with whom the idea and conceptual creation of the product originated, even if they did not physically make it. This regime would thus comport with Principle 3, highlighting women's knowledge and valuing their work, but would still not fulfill Principle 4, as women would receive no economic return for their knowledge.

However, let us not abandon "public domain plus" quite yet: as will be set out below, patents and geographical indications (GIs) may be difficult for women to obtain in order to protect their traditional knowledge.<sup>110</sup> Thus, the focus may necessarily turn to "recognition" of women's traditional knowledge, rather than "protection" of the same. Recognition would mean giving credit where credit is due, using women's knowledge but freely announcing its source. Unlike patentees, women would likely not be able to enforce conditions such as receiving credit; thus I propose voluntary principles which entities looking to use the fruits of women's traditional knowledge could follow in cases where the women hold no patent and the knowledge is technically in the public domain.<sup>111</sup>

First, the use of women's traditional knowledge should be acknowledged and the community of women who are its source identified as such in labeling and advertising. Second, companies should consider remitting at least a small portion of the profits made from the use of such knowledge to the source community; even if not required by law, such a remittance would make the use more equitable and could, of course, be cited by a company as part of its

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109. This "public domain plus" idea may be analogized to Creative Commons licenses, now used as alternatives to copyright licenses. Creative Commons licenses "provide free licenses and other legal tools to mark creative work with the freedom the creator wants it to carry, so others can share, remix, use commercially, or any combination thereof." Creative Commons, About, <http://creativecommons.org/about/> (last visited Nov. 20, 2009). See also BOYLE, *supra* note 106, at 180-81 ("The authors and creators of [Creative Commons licensed] works have chosen to share it with the world, with you, under generous terms, while reserving certain rights for themselves. They may have allowed you to copy it, but not to alter it—to make derivative works. Or they may have allowed you to use it as you wish, so long as you do so noncommercially. Or they may have given you complete freedom, provided only that you attribute them as the owner of the work."). Sara Boettinger and Dan Burk have proposed an "open-source" approach to patenting, mirroring the Creative Commons approach to copyright. Sara Boettinger & Dan L. Burk, *Open Source Patenting*, 1 J. INT'L BIOTECHNOLOGY L. 221 (2004). Note, however, that these "generous" forms of IPRs rest on the assumption that the person holding the Creative Commons license (or an open-source patent) does in fact have a legal intellectual property right vested in the work, which she *could* enforce more stringently if she so desired. Because most of women's traditional knowledge is probably not patentable, see *infra* note 118, women could *request* recognition for the use of their traditional knowledge but probably could not *enforce* such recognition.

110. See *infra* Parts III.B.2-3.

111. I do not limit these principles to women's traditional knowledge but believe that they could be applied to other forms of traditional knowledge, regardless of gender. However, discussing the application of these principles to a broader array of knowledge is outside the scope of this Comment.

community assistance efforts.<sup>112</sup> In this way, women's traditional knowledge would be made available to the public, but women's contributions would be recognized and might even result in some amount of remuneration, thus creating both economic and social value in women's work. While not ideal, this solution may be the best we can do within the current legal framework.

## 2. Patents and Licensing

*[A patent is] . . . a right related only to the invention of a new product or a process, a monopolistic right granted by a government to the legal person who made the invention or innovation. The right is granted to exclude, for a fixed period only, other persons from imitating, manufacturing, using, or selling a patented product, or from utilizing a patented matter or process.*<sup>113</sup>

Patents serve a particular purpose: they grant full ownership (property rights) to the "inventor" of an innovative idea (be it "product" or "process"). This right carries with it the ability to license one's invention to those who would use it for commercial gain and thus the possibility of earning remuneration for the innovation. Thus patents may be viewed positively under Principles 2 (development) and 4 (empowering women toward economic sustainability).

Patents grant legal ownership over an idea, with the possibility of remuneration if the idea can be made profitable; clearly, these traits could be used for development (in monetary terms, as patents can lead to economic gains for their owners) and to empower women (by giving them ownership of their knowledge). However, there are four problems with this picture: first, it is unclear who exactly would receive the revenues from patent licensing; second, women often have difficulty attaining representation to enforce their patents;<sup>114</sup> third, the IPR enforcement infrastructure in the developing world is weak and undependable; and fourth, concerns about commodification would come to the forefront.<sup>115</sup> Finally, and most importantly, it is unclear (and appears

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112. I recognize that convincing companies to follow these principles out of the goodness of their hearts may seem naïve and unrealistic; however, voluntary programs have worked in other areas, particularly if governed by a central council or organization that regulates what companies must do to achieve a certain standard. See, e.g., Forestry Stewardship Council, About FSC, <http://www.fsc.org/about-fsc.html> (last visited Nov. 20, 2009) (giving an overview of the FSC, a highly successful voluntary international program that sets rules governing an "FSC certification" for lumber, indicating that lumber has been sustainably harvested). In addition, it may end up being in a company's interest to recognize the source of a product, as it may make the product appear less generic and thus more attractive to the consumer. See, e.g., Tumusiime, *supra* note 65 (describing Macy's sale of baskets woven by Rwandan women, resulting in income for both Macy's and the weavers).

113. Patel, *supra* note 101, at 309-10.

114. See Malcolm, *supra* note 37, at 12.

115. See *supra* text accompanying note 103.

increasingly unlikely) that traditional knowledge could meet the “prior art” or “prior knowledge/invention” novelty requirements for patenting.<sup>116</sup> These points combine to mitigate the positive light which Principles 2 and 4 would cast on patents and make it doubtful that patents could realistically be used to protect and recognize women's traditional knowledge.

Moving to Principles 1 (redistribution and inequality between the developing and the developed world) and 3 (valuation and visibility of women), patents again miss the mark. As to Principle 1, patents have not historically served the interests of the postcolonial world:

Quite clearly, the conflict between the private gains of the patent owners and the wider national, social, or public interest is at the very heart of the IPR system. The industrially advanced countries have always been the strongest advocates of the IPR system. The imperial powers . . . imposed the IPR system on their colonies soon upon their conquest. . . . To assess the operation of the IPR system, we need to look more closely at the world of patents. . . . There are, in all, about four million patents in the world. Of these, Third World countries have granted to both foreigners and nationals only 200,000, or about 5 percent of the world total. But the nationals of the Third World countries own only 30,000—that is less than even 1 percent of the world total. The other 170,000 of these grants are owned mainly by foreign transnational corporations. To add injury to the insult, not even 5 percent of the foreign-held patents are ever used in the productive system of southern countries.<sup>117</sup>

The potential dangers of the patent system must remain present in any plans regarding patent use; historically and even in the present day, patents (and, Patel argues, the IPR system generally) “reserve[] the Third World markets to foreigners. . . . The system guarantees private foreign gains at public cost to the Third World.”<sup>118</sup> In addition to their general hostility to

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116. The novelty requirement in patent law “preserves the public domain by preventing individuals from appropriating its contents.” ROGER E. SCHECHTER & JOHN R. THOMAS, *PRINCIPLES OF PATENT LAW* 74 (2004). Therefore, evidence of prior art (also called “prior knowledge”) will keep a patent from issuing, as “[n]ovelty is the core value of the patent system.” *Id.* at 73. See also TRIPS, *supra* note 1, at art. 27, 33 I.L.M. at 93-94 (requiring that patentable subject matter be “new”); JANICE M. MUELLER, *PATENT LAW* 153 (3d ed. 2009) (explaining that, in the United States, if a knowledge is “known or used by others,” it cannot be patented. Judge Learned Hand interpreted this phrase as meaning that “the anticipatory knowledge exist in a manner accessible to the public; that is, it must be ‘part of the stock of knowledge of the art in question’”; Ng’etich, *supra* note 106, at 3 (“[C]laimed inventions must be novel (that is, not publicly available or disclosed). . . .”).

117. Patel, *supra* note 101, at 310.

118. *Id.* Note, however, that the most likely regime for women's traditional knowledge would be one in which women actually applied for and held the patents and then licensed their use to companies (likely Western companies). Of course, this would assume that 1) the women hold products or knowledge deemed marketable and profitable by potential licensees; 2) women are able to navigate the IP legal system in order to obtain patents; and 3) women could enforce their patents in court. These issues all arise independently of concerns about commodification and its effect on the women in question.

Some authors have also suggested that, when a company patents a product based in traditional knowledge, it should have to give some type of recognition of its origin. See, e.g., Leanne M. Fecteau,

redistribution and their historical harm to the developing world, patents do nothing to advance women qua women. Patents are (supposedly) gender-blind—they would grant no particular recognition to women’s work as such and thus continue to keep it invisible and undervalued except insofar as women’s ideas might prove profitable to a foreign body that wishes to license them. This occurrence, as Patel indicates, might be quite infrequent.<sup>119</sup>

For patents to be desirable under all four principles, they would have to: 1) be equally enforceable by women and in the developing world generally; 2) recognize the gender of their holder(s) if granted for women’s traditional knowledge; and 3) be as useful for development in the developing world as they are for filling the coffers of developed-world corporations. Given its history, it is unlikely that the patent system will meet these criteria anytime soon.

Instead, the more important issue for women holders of traditional knowledge with regard to patents is finding ways to keep others from patenting their knowledge. Because much of women’s traditional knowledge is not widely known, it may easily be exploited by sophisticated entities.<sup>120</sup> Thus, it would be wise to pursue documentation of women’s knowledge, such that entities looking to patent products or processes that have their roots in exploited women’s knowledge may not be granted. To this extent, libraries and registers which document traditional knowledge<sup>121</sup> (such as India’s Traditional Knowledge Digital Library or TKDL<sup>122</sup>) are an excellent idea, as they may keep such exploitative patents from being granted, though they should also add a label internally for traditional knowledge that is primarily held by women.<sup>123</sup> Of course, in order to keep exploitative patents from being granted, patent

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*The Ayahuasca Patent Revocation: Raising Questions About Current U.S. Patent Policy*, 21 B. C. THIRD WORLD L. J. 69, 69 (2001) (“[T]he U.S. patent system does not recognize or value the traditional knowledge of indigenous groups regarding their regional biodiversity. Rather, the researchers who isolate the compounds can obtain a patent with no recognition for the indigenous knowledge upon which they relied.”). However, since this approach would still involve enclosure and ownership of a knowledge belonging to women by an outside entity, it is less than ideal.

119. See Patel, *supra* note 101, at 306 (“[T]he existing intellectual property rights system . . . legalizes only the rights of the inventors and innovators of *modern technology*.” (emphasis added)).

120. See *supra* note 107 (discussing the appropriation of the neem tree); Fecteau, *supra* note 118 (discussing the patenting of a strain of the ayahuasca vine).

121. See generally U.N. Univ. Inst. of Advanced Stud. [UNU-IAS], *The Role of Registers and Databases in the Protection of Traditional Knowledge: A Comparative Analysis* 6 (2004) (providing “a comparative analysis of a number of case studies of existing databases and registers and attempt[ing] to draw some conclusions and recommendations regarding their strengths and limitations for securing protection of TK”).

122. See IPR Commission Report, *supra* note 13, at 81. See also E-mail from Sudhir Krishnaswamy, Professor of Law, National University of Judicial Sciences Kolkata, to author (Nov. 2, 2009, 0:23 EST) (on file with author) (“TKDL set out to translate existing codified knowledge in Indian Systems of Medicine into western pharmacological categories to make it compatible with the International Patent Classification database. The database is designed to function as prior art and thereby prevent the grant of patents which misappropriate traditional knowledge.”).

123. In terms of India’s TKDL, “[w]hile there is no doubt that women were significant contributors to these [traditional] knowledges, there is very little acknowledgment of their contribution.” E-mail from Sudhir Krishnaswamy, *supra* note 122.

offices would have to be encouraged to make use of traditional knowledge registers when researching “prior art” on patent applications. This requirement is sadly lacking at present, and advocates should consider ways of incorporating it into their national patent offices’ regulatory framework.<sup>124</sup> This documentation would not give women a patent-like right in the knowledge, so it is unimportant *who* adds the knowledge to the database. In summary, the potentially most useful policy changes where patents are concerned would include: 1) the expansion of traditional knowledge catalogues and databases, with more traditional knowledge included; 2) the addition of a gender tag or category, such that women’s contribution to traditional knowledge would be recognized within the databases; and 3) broadly enforced requirements within national and international patent offices that the contents of these databases be searched as part of meeting the novelty requirement for patent applications.

### 3. *Geographical Indications*

Geographical indications represent the framework that is perhaps most often associated with traditional knowledge.<sup>125</sup> Under TRIPs, GIs are defined as “indications which identify a good as originating in the territory of a WTO Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.”<sup>126</sup> GIs thus identify a product with its source location, rather than with a particular owner. For example, instead of crediting an “inventor” of Darjeeling tea, the right to call one’s product “Darjeeling tea” is dependent on the source of the product.<sup>127</sup> This option is attractive to holders of

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124. See Ajeet Mathur, *Who Owns Traditional Knowledge?*, 38 *ECON. & POL. WEEKLY* 4471, 4471 (2003) (“[N]ovelty thresholds of patent laws of countries differ greatly and are notoriously low in countries where the pharmaceutical industry is strongest; and, patentability under TRIPs does not require prior informed consent of countries or communities from where organic and informational resources are procured.”); Manuel Ruiz, *The International Debate on Traditional Knowledge as Prior Art in the Patent System: Issues and Options for Developing Countries*, Trade-Related Agenda, Development and Equity Occasional Papers 9, at vii (2002), available at [http://www.southcentre.org/index2.php?option=com\\_docman&task=doc\\_view&gid=11&Itemid=182](http://www.southcentre.org/index2.php?option=com_docman&task=doc_view&gid=11&Itemid=182) (“Over the past few years, the patent system has come under considerable criticism for its failure to prevent the misappropriation of traditional knowledge. While there is wide agreement that positive protection of traditional knowledge can not be successively accomplished through the patent system, increasingly, consideration is being given to suggestions to use the patent system as a defensive measure against misappropriation of traditional knowledge. One option under discussion in both the WTO and at WIPO is to introduce changes in the system both in terms of rules and practices to ensure that prior art searches fully take into account existing traditional knowledge as part of the state of the art.”); see also U.N. Univ. Inst. for Advanced Stud., *supra* note 121.

125. See IPR Commission Report, *supra* note 13, at 73.

126. TRIPs, *supra* note 1, at art. 22. Note that GIs are constructed to give rights in *products*, not *processes*. Therefore, even if women could obtain GIs to protect the products of their traditional knowledge, protection of processes could only be obtained via patent and would thus fall under the recommendations regarding patents. See *supra* Part III.B.2.

127. For information on the geographical indication for Darjeeling tea, see S.C. Srivastava, *Protecting the Geographical Indication for Darjeeling Tea*, in *MANAGING THE CHALLENGES OF WTO*

traditional knowledge, as the product in question might be historically and popularly linked to a particular location. By using a GI, the producers in that region can keep out imitators and exploiters and retain property rights to their product and its geography-based reputation.

Under the principles applied by this Comment, GIs can be slightly problematic: while they can serve redistributive goals (since facially they are equally accessible to inhabitants of developing nations) and may also serve economic development (Principles 1 and 2), perhaps even within communities where the product is mainly based on women's traditional knowledge and thus would benefit women (Principle 4), they do not grant any specific gender recognition (Principle 3).<sup>128</sup>

The principles listed above, however, are the least of the problems in play when it comes to obtaining GIs for women's traditional knowledge. Meeting the requirements for GIs can be extremely difficult. While the product does not necessarily need to be linked by name to its geographical origin for a GI to be granted, the indication must be a symbol or name that is widely associated with the product.<sup>129</sup> "A tea lover ordering a cup of Darjeeling tea anywhere in the world wants to be assured that the leaves used to make the tea are indeed from the Darjeeling region of India."<sup>130</sup> But what if farmers in an obscure area of India, not known for its tea production, try to obtain a GI? Since consumers will have no reason to link the region and the tea, a GI could well be out of the farmers' reach. What does this mean for women? Since much of women's knowledge has been historically used but de-valued (not widely known or

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PARTICIPATION—45 CASE STUDIES (Peter Gallagher, Patrick Low & Andrew L. Stole eds., 2005), available at [http://www.wto.org/english/res\\_e/booksp\\_e/casestudies\\_e/case16\\_e.htm](http://www.wto.org/english/res_e/booksp_e/casestudies_e/case16_e.htm); and Caroline Le Goffic, *Cancellation of a Trade Mark Based on a Prior Foreign Geographical Indication Related to Different Products*, 3 J. INTEL. PROP. L. & PRAC. 152 (2008), which discusses a decision of the Court of Appeal of Paris regarding the GI for Darjeeling tea. In addition, some of the best-known GI cases come out of the European Union and have wines and spirits as their core subject matter. See, e.g., BERNARD O'CONNOR, THE LAW OF GEOGRAPHICAL INDICATIONS 213-15 (2004) (discussing the "Spanish champagne" and "Scotch whiskey" cases).

For broader information on GIs, see generally LATHA R. NAIR & RAJENDRA KUMAR, GEOGRAPHICAL INDICATIONS: A SEARCH FOR IDENTITY (2005); O'CONNOR, *supra*; IPR Helpdesk, Protections of Geographical Indications and Designations of Origin, [http://www.ipr-helpdesk.org/documents/ES\\_Geographical\\_Indication2\\_0000006292\\_00.xml.html](http://www.ipr-helpdesk.org/documents/ES_Geographical_Indication2_0000006292_00.xml.html) (last visited Nov. 20, 2009); GeographicIndications.com, <http://www.geographicindications.com/> (last visited Nov. 20, 2009).

128. In addition to the problems mentioned in this section, the GIs share with patents the same issues of income distribution. See *supra* note 78.

129. See O'CONNOR, *supra* note 127, at 52 ("In order to be protected, a geographical indication needs to be 'an indication,' but not necessarily the name of a geographical place. In other words, geographical indications could be iconic symbols or emblems like the Eiffel Tower to designate a French good or the Taj Mahal to designate an Indian good or the Statute of Liberty to designate a good from the United States."). For discussion of a controversial geographical indications battle, see IPR Commission Report, *supra* note 13, at 89, which outlines the "Battle for Basmati."

130. Carstein Fink & Beata K. Smarzynska, *Trademarks, Geographical Indications, and Developing Countries*, in DEVELOPMENT, TRADE, AND THE WTO: A HANDBOOK 401, 401 (Bernard Hoekman, Aaditya Mattoo & Philip English eds., 2002); see also Srivastava, *supra* note 127 (describing the Darjeeling tea case).

associated with its actual originators), many products of women's traditional knowledge would likely not qualify for GIs.

An additional problem with GIs is the difficulty of enforcing them once they are granted. Though TRIPs contains an article on GIs,<sup>131</sup> "the costs of ensuring compliance with quality standards and promoting and enforcing geographical indications abroad may be significant."<sup>132</sup> For this reason, the TRIPs Council is pursuing the establishment of a multilateral register of geographical indications for wines.<sup>133</sup> It is uncertain at this point in time whether such a register might be expanded to include all GIs, not just those protecting wine (mostly held by French regions and the subject of heated debate during TRIPs negotiation).<sup>134</sup>

In short, if, in particular cases, women have a good chance at obtaining a GI for their traditional knowledge based on the GI requirements set out in TRIPs, they should be encouraged to make the attempt. However, given the problems with enforcement of any type of IPR in the developing world (and the focus on fixing the GI system mainly in regards to the developed world, particularly the European Union), added to the stringent requirements that must be met in order to obtain a GI, women's traditional knowledge would overall be unlikely to receive GI protection.

#### CONCLUSION

In summary of the policy recommendations of this Comment, I propose the following: 1) a "public domain plus" system of voluntary recognition and remittance by entities planning to create products whose roots lie in women's traditional knowledge, where a company using the knowledge would indicate the knowledge's origin and perhaps remit part of its profits to the women's home community as part of a voluntary program; 2) that more traditional knowledge libraries, catalogues, and databases be established; 3) that these libraries include a tag for gender, indicating whether the source of the knowledge is primarily women; and 4) that national and international patent offices include a requirement that these libraries be searched as part of fulfilling the novelty requirement of patent applications.

Women have been "holding up two-thirds of the sky" for centuries, but their contributions outside of the science lab have been largely unsung, unheeded, and unrewarded. Advances in the literature on traditional knowledge in recent years have meant many steps in the right direction, but it is time for the blinders to come off with regard to gender. A gendered lens should be

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131. TRIPs, *supra* note 1, at art. 22.

132. IPR Commission Report, *supra* note 13, at 89.

133. *Id.*

134. *Id.* at 88.



adopted for analysis of traditional knowledge in theory as well as in practice, with sound guiding principles established for the formation of policy to recognize the value and existence of women's traditional knowledge. Anything less falls short, for both traditional knowledge and feminism.