tributing electronic keys that would access encrypted work.[118] This would likely satisfy most contributors to the database.

10. *Is the Database Project Viable?*

A TK database could be a powerful tool for a patent office and an effective research tool for unauthorized users. Assuming the latter issue can be resolved (a complicated assumption), a fundamental issue arises in control. Local indigenous communities are not likely to have the skills required to manage a database by themselves. They would require the control and coordination of central authorities who may or may not understand their particular culture. All things considered, the project appears to be both controversial and expensive.

VI. *DISCLOSURE OF ORIGIN*

There is considerable debate about disclosure of origin (DO) requirements.[119] DO, making patent applications open to the public, is a central tenant of India's proposal to harmonize TRIPS and the CBD.[120] Both DO and public access to patent applications focus on the same goal, to prevent the misappropriation of genetic material. International agreements provide for the protection of geographical terms but do not consider DO. TRIPS article 27.1 stipulates what is patentable subject matter; it makes no mention of the origin of resources. A patent could be obtained using 'bio-pirated' genetic material. While criminal or civil law may or may not provide a remedy, the patent would still be valid. Article 27(3)(b) of TRIPS states that members may exclude plants and animals from patentability, although protection for plant varieties must be provided either by patents or a *sui generis* system or by a combination of both. Disclosure of origin was clearly not a major issue facing the framers of TRIPS, but it is an increasing interest as the norms of bio-piracy are established.

Bio-piracy is a term used to describe the practice – often by western companies – of patenting products based on TK or genetic resources without providing compensation or recognition. It is a complicated issue.[121] There are problems associated with the term itself:

> . . . an examination of specific cases in which traditional knowledge is commercialized reveals that it is not always easy to determine exactly the nature and extent of the inequity. Imprecise references to the technical language and concepts of intellectual property law

118 *See* Dan L. Burk and Julie E. Cohen, *Fair Use Infrastructure for Copyright Management Systems*, Georgetown University Law Center 2000 Working Paper Series http://papers.ssrn.com/paper.taf?abstract_id=239731 (last visited Sept. 5, 2006).

119 *See* Dominic Keating, *Access to Genetic Resources and Equitable Benefit Sharing Through a New Disclosure Requirement in the Patent System: An Issue in Search of a Forum*, 87 J. PAT. & TRADEMARK OFF. SOC'Y 525 (2005).

120 *See* Kruger, *supra* note 40.

121 *See* David Conforto, *Traditional and Modern Biopiracy: Redefining the Biopiracy Debate*, 19 ENVTL. L. & LITTIG. 357-358 (2004).

sometimes make it difficult to identify exactly what the practical problems are, and may unnecessarily alienate one interest group or another, such as industry, intellectual property experts, and indigenous and local organizations.[122]

According to US law, a patent cannot be obtained if the person did not: "... invent the subject matter sought to be patented."[123] Perhaps the best example where an applicant has not fully disclosed the origin of the material is in the case of the Ayahuasca patent. This plant was used in rituals by South American Indians for a long period of time. The applicant claimed that the plant was new and unique. However, it was found growing in a domestic garden in South America.[124]According to local tradition, the plant can only be taken as part of a ceremonial drink administered by a Shaman. Acting through the Center for International Environmental Law (CIEL) on behalf of the Coalition for Amazonian Peoples and Their Environment, the USPTO re-examined the patent because previous publications described the plant. The patent was later reinstated.[125] It is notable here that the legal action was handled by a collective body with resources that allowed it to be at least partially successful.

This and other cases of the failure of the patent system to require DO has led some to suggest that a *sui generis* system should be used. There are two general theories about how such a system should operate. It could be a mandatory requirement to issue a patent, or it could be enforced by other means. With a DO scheme in place, it would be required to disclose the source of any genetic resources or TK used in an invention. There would also be a requirement to provide evidence that the right holder gave permission for its use. Permission would be more detailed than a simple contract, as proponents hold that it is only informed consent that would qualify. It would be likely this would be evidenced by some benefit sharing agreement.[126]

To date, statutes passed by the Andean Community and Costa Rica require that patent applicants supply the patent office with the origin of genetic resources used. If appropriate, a demonstration of prior informed consent either from relevant government authorities or from indigenous communities is also required.[127] From a patent law perspective, it would be difficult for a mandatory scheme to comply with national legislation and international treaties. While it is difficult to pinpoint the genesis of these viewpoints, the CBD played a major role in solidifying the arguments. Article 15.4 of the CBD states that an agreement should be concluded on mutually agreed terms.

122 David R. Downes, *How Intellectual Property Could be a Tool to Protect Traditional Knowledge,* 25 COLUM. J. ENVTL. L. 264-265 (2000).

123 35 U.S.C. § 102(f).

124 U.S. Plant Patent No. 5,751 (issued June 17, 1986).

125 *See* de Carvalho, *supra* note 7, at 55. The author noted that a particular focus of the opposition to the patent on Ayahuasca was the fact that disclosure was offensive to their beliefs.

126 *See* World Trade Organization, *The Relationship Between TRIPS Agreement and the Convention on Biological Diversity and the Protection of Traditional Knowledge*, IP/C/W/356 http://docsonline.wto.org/gen_search.asp/?searchmode=simple (last visited Sept. 1, 2006). The Permanent Mission of Brazil at the WTO presented a proposed amendment of TRIPS, along with China, Cuba, the Dominican Republic, Ecuador, India, Pakistan, Thailand, Venezuela, Zambia and Zimbabwe.

127 *See* the Common Regime on Access to Genetic Resources, Andean Decision No. 391, Andean Community of Nations (August 16, 1996), http://sice.oas.org/trade/JUNAC/decisiones/DEC391e.asp (last visited Sept. 5, 2006). The Andean Community counts Bolivia, Colombia, Ecuador and Peru as members. The Biodiversity Law (No. 7788) of Costa Rica enacted on May 27 1998 can be found at http://www.grain.org/docs/costarica-biodiversitylaw-1998-en.pdf (last visited Sept. 5, 2006).