

Protecting Indigenous Knowledge

Dora Marinova

Institute for Sustainability and Technology Policy, Murdoch University,
D.Marinova@murdoch.edu.au

Keywords: indigenous accreditation; Mt Romance; patents, Songman Circle of Wisdom; sustainability;

EXTENDED ABSTRACT

The controversies surrounding intellectual property protection are most obvious when it comes to protecting indigenous knowledge. The firmly entrenched patenting laws in the developed world provide recognition and economic monopoly to individual inventors. Consequently, large and small companies have been able to appropriate the economic benefits from the technological knowledge protected through patents. Many of them however have exploited knowledge that has existed in indigenous cultures for thousands of years. An example of this is the neem tree, well renowned for its properties since ancient times.

The paper argues that the current models for protecting intellectual property cannot be used for indigenous knowledge. Firstly, indigenous knowledge is holistic by nature and collectively owned; and secondly, an appropriate protection model should allow for maintaining the cultural and physical environment that has generated indigenous knowledge.

After examining the failure of the patent system to recognise indigenous input (using examples from the US Patent and Trademark Office data), the analysis in the paper is directed towards exploring alternative models for indigenous intellectual property protection. The world-first case study of indigenous intellectual accreditation through the partnership between Mt Romance (Australian sandalwood company), Aveda (US-based multinational cosmetics corporation) and the Kutkabubba community (represented by the Songman Circle of Wisdom), is presented. The accreditation allows for the indigenous people to be recognised as traditional owners of the land, and for their care and knowledge about the sandalwood trees. It also gives them a share of the profits made from the contemporary use of the pure sandalwood oil.

The paper concludes that sustainability provides a conceptual framework for a change in the model of protecting intellectual property. This implies that appropriate policies should be put in place for businesses to re-examine their value systems and feel responsible towards the community.

Indigenous sustainability, in particular, requires addressing the disadvantages experienced by indigenous people in all aspects of society. A new intellectual property model should reflect care for the economic, social and environmental aspects of the world where indigenous knowledge is created.

1. INTRODUCTION

The protection of intellectual property is one of the pillars of capitalism and the market economy as it guarantees private ownership over creations of the human mind encouraging inventiveness and innovation. Human knowledge and creativity however span beyond the time and geographical boundaries of the Western civilisation. There have been significant concerns, for example, as to whether patents guarantee financial benefits to the already rich and powerful parts of the world inhibiting economic progress in the less developed areas or disadvantaged sections of society (Harry, 2001).

Patent protection has been extensively used in particular to guarantee returns on research and development investments in the medical and pharmaceutical industries (Brockhoff et al., 1999; Kingston, 2001) making them amongst the most profitable worldwide (OECD, 2001). These industries have been able to rip enormous benefits from drugs and medications which are potentially life saving for populations affected by HIV/AIDS and other infectious diseases in Africa, Asia, South America or the poor in the West. On the other hand, these same industries have been accused of exploiting traditional knowledge about plants to produce new drugs without giving recognition or any economic benefits to the people who have developed and carried this information throughout the centuries (see for example Posey and Dutfield, 1995).

How adequate are the current intellectual property systems and laws in protecting indigenous knowledge? The paper argues that this is the wrong approach as the current intellectual property model cannot be applied in the case of indigenous knowledge. Firstly, indigenous knowledge has developed independently and outside the notion of private ownership – it is holistic and community owned which is at odds with the spirit and provisions of the patent legislation; and secondly, there should be other forms for protecting indigenous intellectual property that guarantee similar and sustainable returns to the people who own this knowledge.

The structure of the remaining of the paper is as follows. Firstly, it examines the notion of indigenous knowledge and its intrinsic characteristics. Then it analyses how the two main provisions of patenting, namely recognition of authorship and protection of economic benefits have (not) been applied in the case of indigenous knowledge. This leads to a discussion of a possible

alternative model of protection of intellectual property based around the approach of the Western Australian company Mt Romance. Finally, the paper concludes with policy recommendations within a sustainability framework.

2. INDIGENOUS KNOWLEDGE

Indigenous peoples are broadly defined as: “peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonisation or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their social, economic, cultural and political institutions” (Caslon Analytics, 2005).

The last part of this definition requires particular attention. The retention of social institutions within indigenous societies often means that the new institutions on their lands cannot serve the same purpose. In the case of the patent system, this legal institution imposed by the West is not only in conflict with the traditional values within indigenous societies, it also reflects a conception and practice that is colonialist, racist and usurpatory (COICA, 1995)¹.

Indigenous knowledge is often referred to as traditional knowledge and “encompasses the content or substance of traditional know-how, innovations, information, practices, skills and learning of traditional knowledge systems such as traditional agricultural, environmental or medicinal knowledge” (WIPO, p. 4). It can also be expressed in folklore, such as songs, chants, dances, narratives, motifs and designs. A major aspect of the traditional in this knowledge is the communal and intergenerational ownership which contradicts the notion of exclusive individual use espoused by patent laws.

Indigenous knowledge is often holistic and impossible to fragmentise to fit the requirements for novelty, practicality, originality and non-obviousness under the model of the World Intellectual Property Organisation (WIPO). In the case of Aboriginal knowledge, Blakeney (1999)

¹ An extreme example is the US patent issued in 1995 when the genetic material of an indigenous person from Papua New Guinea was claimed as part of the Human Genome Diversity project (<http://www.cptech.org/ip/dna.txt>, accessed 16 September 2005).

writes that it is intimately connected to Dreamings, ceremonies, sacred sites and objects. In its wholeness it is inseparable from spiritual values, beliefs and the notion of country. Maintaining indigenous knowledge requires maintaining the social and physical environment that has created it (WIPO, 2005), which the current intellectual property models have been unable to achieve.

3. THE CURRENT PATENT LAW MODEL

The issue of a patent (as a subset of the protection of intellectual property) has a two-fold role: firstly, it recognises ingenuity; and secondly, it allows for a monopoly over economic benefits. These two functions are potentially equally applicable to indigenous knowledge, i.e. it results from ingenuity and creativity, and should generate economic benefits; however the current intellectual property model has failed to deliver on both accounts.

3.1. Recognition

There is a lot of controversy in relation to how traditional knowledge has been exploited by multinational companies. Blakeney (1999) draws attention, for example, to the use of native plants and the traditional medical knowledge of indigenous peoples in identifying biological resources for commercial exploitation, including establishment of genetic banks.

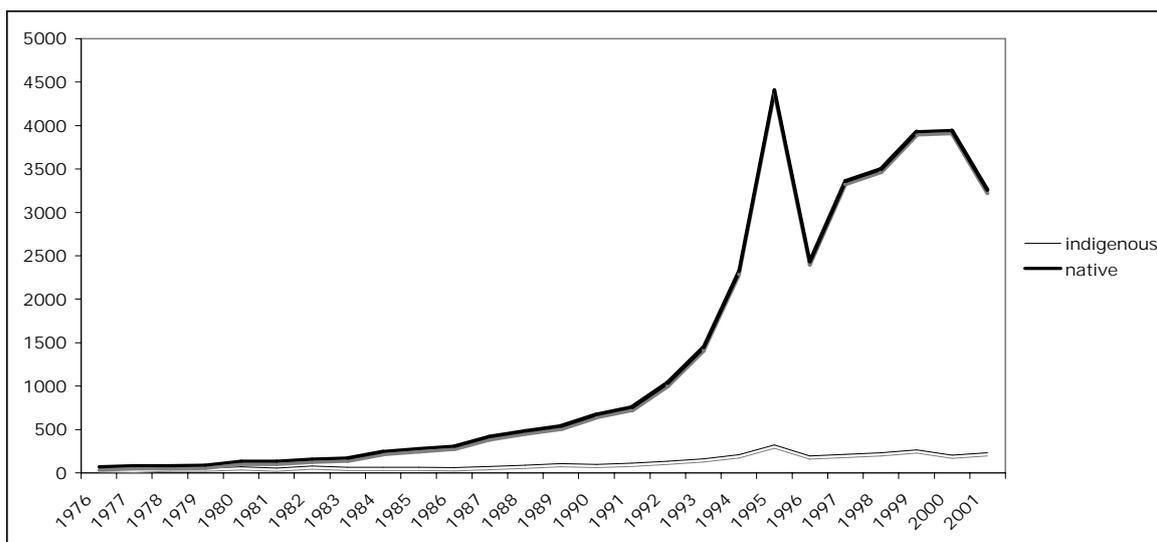
Indigenous knowledge has barely received official recognition in registered patents (or inventions). A keyword search with “indigenous knowledge” of patent texts (claims, abstracts, titles and descriptions) at the world largest patenting institution, namely the US Patent and Trademark Office (USPTO) generates 0 hits between 1976 and 2004. This is not surprising as something that has been disclosed and available in the public domain for longer than one year, without been patented during this time, cannot be patented. Consequently the patent system cannot provide any recognition to the owners of indigenous knowledge for their creativity or ingenuity. If used,

indigenous knowledge has been hidden or developed further under “scientific” terms making it unrecognisable and alienated from the place where it originated.

For example, keyword searches for patent descriptions incorporating words such as “indigenous” or “Aboriginal” generate some, be it a very small number of hits – a total of 3,508 or 0.1% of all patents registered at the USPTO during 1976-2004 (see also Graph 1). A further search on the use of native species in the wording of patent attributes results in a total of 36,584 or 1.2% of all patents during the same period. I am leaving it to the reader to make their own judgement how much of the knowledge about these native species (plants, insects or animals) has been newly discovered and what the contribution of native knowledge held by indigenous people has been. It is also quite interesting that the late 1980s and the 1990s was the time when the use of native species in successful patent applications increased significantly (see Figure 1).

Let’s take for example the neem tree. Its properties are mentioned in Indian texts written more than 2,000 years ago (Schuler, 2004). The USPTO has issued 246 patents (including to Australian inventors and companies) since 1976 for insect repellents, disinfectants, fungicides, gels and treatments of wrinkles, control of crawling insects, treatment of asthma and wood preservatives, to mention a few, based on the properties of the neem tree. Although 37 of these patents have been lodged by individual Indian inventors (with 32 assigned to Indian companies and organisations), the commercial benefits to the Indian farmers who have used extracts from the neem seeds for generations are only secondary, driven by the increased demand for (and consequently price of) neem seeds.

It is clear from the above examples that the patent model is not geared towards recognising the indigenous peoples’ knowledge held collectively within the community.



Notes: 1. The patent numbers are by date of patent application (as distinct from date of patent issue).
 2. The data were extracted from the US PTO on-line database <http://patft.uspto.gov/netahtml/search-adv.htm> on 10 September 2005.

Figure 1. US patents related to indigenous topics and native species

It is not surprising then that also in the 1990s the UN Commission on Human Rights' major study

on the protection of indigenous intellectual property opened for the first time the debate about the use and recognition of indigenous knowledge².

3.2. Economic benefits

Economic benefits are the major drive behind patenting (see, for example, Freeman, 1982 or Rosegger, 1996). This is particularly true within today's globalised world with countries such as China, Taiwan, Indonesia, Brazil or the former Eastern Europe, being accused of breaching patent and copyright laws. The World Trade Organisation estimates that if developing countries were to pay their intellectual property royalties, this would generate about US\$60 billion per year going towards the coffins of the developed world (Finger, 2002). A lot of these "ethical" (ie economic) considerations come from the USA, which according to Plasencia (1999) was "a major intellectual property pirate" (p. 288) for half of its existence. This was also the time when it developed its economic prowess.

² By comparison, the USA has been providing patent protection to individual inventors since the 1790s.

Following Finger (2004), the issue about indigenous knowledge however is how to help these (poor) people benefit commercially using modern methods from their traditional wisdom. The majority of examples provided by Finger and Schuler (2004) demonstrate how indigenous people can successfully fight against the exploitation of their knowledge in newly issued patents and "fit" within the existing intellectual property model in order to gain economic outcomes. Although this may be one way of adjusting, it implies superiority of the current institutional and social arrangements with little respect for traditional cultures. It also does not serve the tradition of community ownership and responsibility for nature that exist in most indigenous cultures.

4. ALTERNATIVE MODELS

Are there any alternatives to the widely accepted and fast globalising intellectual protection laws? Is there a model of dealing with intellectual property which could provide recognition and economic rewards outside the WIPO laws?

A possible answer to these questions is the story of the Western Australian company Mt Romance which is explored in more detail below.

4.1. The Mt Romance Case Study

Earlier this year *The Guardian* wrote:

You've probably given some thought to what your face cream is doing to your skin - but do you ever think about where the ingredients come from? Over-harvesting of rare plants, use of non-sustainable petrochemicals (mineral oil, petroleum), destruction of rainforests and ecosystems, patenting of native plants, and the pilfering of indigenous people's knowledge of flora and fauna without financial recompense are all things our bathroom cabinet conceal. (Hancock, p. 43)

What followed after that was a report on the groundbreaking indigenous plant accreditation protocol of the Songman Circle of Wisdom in partnership with the USA-based multinational cosmetics company Aveda Corporation and the exporter of Australian sandalwood oil Mt Romance³. According to this protocol, both Aveda and Mt Romance donate \$50,000 each to the Kutkabubba Aboriginal community for sourcing their products from Australia using the land and knowledge of the indigenous people. The money is then used by the community with no strings attached. The partnership under the accreditation protocol provides a new model for protecting indigenous knowledge⁴ which also allows for it to be sustained.

The way Dr. Richard Walley, the Songman Circle of Wisdom's Convenor, describes the accreditation is:

"When we go into these partnerships, we don't go with weakness saying, 'Please, Mr Aveda' or 'Please, Mr Consumer - help us',... We go in saying, 'We are a strong group of people who've got a philosophy. We know this culture, we know this land, we can help you - not you help us. We can help you.' " (Hancock, p.43)

An important component of the partnership are the changing attitudes of the business community. The driver in this case was Mt Romance, a company which almost went into liquidation in 1997

following the meltdown of the Asian import market where it was originally sourcing its products (Morgan, 2004). Having to sell off the family farm and experiencing the difficulties of finding creditors, the company founders Steve and Karen Birbeck created a small range of emu oil cosmetics to be sold at local markets and also turned to industrial tourism (see Exhibit 1). Looking for long-term sustainability for his business, Steve discovered the pure Australian sandalwood oil as a niche market but approached it with respect and responsibility to the culture and land of the indigenous people (Austrade, 2005):

"I discovered the tangible link tribal people had with the indigenous plants and perfumes when I lived with Aboriginals for 10 years in the Western Desert... Mt Romance has drawn on input from these important elders in the discovery and commercial development of the natural ingredients sourced from Western Australia."

³ This world first event of global importance was launched in November 2004 at Murdoch University, Perth, Western Australia.

⁴ Although there are 1,371 sandalwood patents issued by the USPTO between 1976 and 2005 (as at 15 September 2005), none of them relates to the indigenous knowledge or usage by Aveda, Mt Romance or the Kutkabubba community.



Source: <http://www.mtromance.com.au/content/category/2/76/25/> (accessed 15 September 2005)

Exhibit 1. Sandalwood Factory at Mt Romance



“Our mission at Aveda is to care for the world we live in, from the products we make to the ways we give back to society. At Aveda, we strive to set an example for environmental leadership and responsibility, not just in the world of beauty, but around the world.”

Source: <http://www.aveda.com/home.tmpl#> (accessed 15 September 2005)

Exhibit 2. Aveda’s mission

Although Mt Romance recently was sold to the Melbourne-based company Holistic Products, the indigenous accreditation protocol remains.

The third partner in the partnership, Aveda is also renowned for its good environmental image and sustainable business practices (see Exhibit 2). The company is committed to building sustainable business partnerships with indigenous people worldwide in the sourcing of its plant-derived ingredients. According to the company’s president Dominique Conseil (Aveda, 2005):

"At Aveda, we believe in beauty with a purpose... Our ingredients must be not only high-quality, but high-integrity. We are dedicated to changing the way the world does business."

4.2. Sustainability Framework

The only way to approach issues related to indigenous knowledge is from a holistic perspective. In other words, we need a model which provides a systematic all-encompassing approach that crosses the boundaries of

institutions, regulations and research disciplines. The sustainability concept is a valuable conceptual framework that acknowledges the integrated importance of social, environmental and economic issues as well as the importance of relationships and partnerships to achieve this.

Indigenous sustainability, in particular, as a new movement in the field of sustainability (Kinnane, 2002), is concerned with addressing the disadvantages experienced by indigenous people in all aspects of society. A new intellectual property model should allow for maintaining the social, political, cultural and physical environment where indigenous knowledge is created. According to McGrath et al. (2005), “indigenous people, whose spiritual practices connect with country and have the potential to provide a foundational ethic for sustainability generally have much to offer the Eurocentric rationalists who has separated themselves from ecological cycles between the earth, air and water and are thus disconnected from the spiritual self”.

The “one-size-fits-all” models for protecting intellectual property do not work in a sustainable environment which respects local knowledge and practices, and should allow for diversity to flourish. The alternative model needs to reflect the values of sustainability.

5. CONCLUSION

Shiva (2002) describes the patenting of indigenous knowledge as double theft – firstly, big companies acquire ownership over something that does not belong to them; and secondly, the established patent rights prevent indigenous people from exploiting the economic opportunities linked to this indigenous knowledge.

There is very little in the current patent laws preventing Mt Romance (and consequently Aveda) to use the same approach. What has made the change is the sustainability value system existing in both organisations, which has driven the search for an alternative model. Economic recognition of the indigenous contribution is an important aspect of the sustainability triad that can help synergistically social and environmental sustainability.

The (paternalistic) encouragement of indigenous people to learn and use the “advantages” of the current patenting models is not an appropriate policy. There should be policies in place to insure that alternative models, such as indigenous partnerships with commercial companies, are

applied to prevent the theft and exploitation of indigenous intellectual property as well as deliver sustainable benefits to its traditional owners.

6. ACKNOWLEDGEMENT

The author acknowledges the financial support of the Australian Research Council and is grateful to all indigenous peoples around the world for their wisdom and care for the planet Earth.

7. REFERENCES

- Austrade (2005), Export makes scents for Mount Romance, *Trademark*, Australian Government, www.austrade.gov.au/corporate/layout/0,,0_S1-1_1z1c-2_-3_PWB110520482-4_-5_-6_-7_,00.html (accessed 15 September 2005).
- Aveda (2005), Taking care of business: A dialogue on environmentally balanced economics, aveda.aveda.com/about/press/wharton_conference.asp (accessed 15 September 2005).
- Blakeney, M. (1999), Intellectual property in the dreamtime – protecting the cultural creativity of indigenous peoples, WP 11/99, *OIPRC Electronic Journal of Intellectual Property Rights*, www.oiprc.ox.ac.uk/EJWP1199.html (accessed 12 September 2005).
- Brockhoff, K.K, H. Ernst and E. Hundhausen (1999), Gains and pains from licensing – patent-portfolios as strategic weapons in the cardiac rhythm management industry., *Technovation*, 19, 605–614.
- Caslon Analytics (2005), *Intellectual Property Guide*, www.caslon.com.au/ipguide13.htm, (accessed 12 September 2005).
- Coordinating Body for the Indigenous Organisations of the Amazon Basin (COICA), (1994), Statement of the Regional Meeting on Intellectual Property Rights and Biodiversity, also in D.A. Posey and G. Dutfield (1995), Appendix 9.
- Daes, E.-I.A. (1993), *Study of the Protection of the Cultural and Intellectual Property of Indigenous Peoples*, UN Commission on Human Rights, New York, E/CN.4/Sub.2/1993/28.
- Finger, J.M. (2004), Introduction and overview, in J.M. Finger, P. Schuler (eds) *Poor People's Knowledge: Promoting Intellectual Property in Developing*

- Countries, World Bank and Oxford University Press, Washington DC, 1-36.
- Finger, J.M. (2002), The Doha Agenda and Development; A View from the Uruguay Round, Asian development Bank, Manila, http://www.adb.org/Economics/pdf/doha/Finger_paper.pdf (accessed 15 September 2005).
- Freeman, C. (1982), *The Economics of Industrial Innovation*, 2nd edition, Frances Pinter, London.
- Hancock, L. (2005), Beating beauty's ugly side: on the ethics of cosmetics, *The Guardian* (UK) 8 January, 43.
- Kingston, W. (2001), Innovation needs patent reform, *Research Policy*, 30, 403-423.
- Harry, D. (2001), Biopiracy and globalisation: indigenous peoples face a new wave of colonialism, *Splice*, 7 (2&3), www.ipcb.org/publications/other_art/globalization.html (accessed 16 September 2005).
- Kinnane S. (2002), Recurring visions of Australindia, in A. Gaynor, M. Trinca, A. Haebich (eds) *Country: Visions of Land and People in Western Australia*, Museum of Western Australia and the Centre for Studies in Western Australian History, University of Western Australia, Perth: 21-31.
- McGrath, N., Flatau, P., Marinova, D. (2005), Institutionalising a participatory culture for indigenous sustainability in Western Australia, *Proceedings of the International Conference on Engaging Communities*, Brisbane, Queensland (in press, acceptance date 4 August 2005).
- Morgan, G. (2004), Masters of reinvention, *Entrepreneur of the Year*, 2004 Annual Review Magazine, Ernst & Young, [www.ey.com/global/download.nsf/Ireland_EOY_E/thought-leadership-reinvention/\\$file/EOY_Masters_Of_Reinvention.pdf](http://www.ey.com/global/download.nsf/Ireland_EOY_E/thought-leadership-reinvention/$file/EOY_Masters_Of_Reinvention.pdf) (accessed 15 September 2005).
- Organisation for Economic Cooperation and Development (OECD) (2001), International trade by technology intensity, *STI Scoreboard 2001*, www1.oecd.org/publications/e-book/92-2001-04-1-2987/PDF/D71.pdf (accessed 3 September 2005).
- Plasencia, M.M. (ed.) (1999), *Privacy and the Constitution*, Garland Publishing, New York.
- Posey D.A. and G. Dutfield (1995), *Beyond Intellectual Property: Toward Traditional Resource Rights for Indigenous Peoples and Local Communities*, IDRC Books, Ottawa, Canada.
- Rosegger, G. (1996), *The Economics of Production & Innovation: An Industrial Perspective*, 3rd edition, Butterworth-Heinemann, Oxford, UK.
- Schuler, P. (2004) Biopiracy and commercialisation of ethnobotanical knowledge, in J.M. Finger, P. Schuler (eds) *Poor People's Knowledge: Promoting Intellectual Property in Developing Countries*, World Bank and Oxford University Press, Washington DC, 159-182.
- Shiva, V. (2000), Poverty and globalisation, BBC Reith Lectures 2000, http://news.bbc.co.uk/1/hi/english/static/events/reith_2000/lecture_5.stm (accessed 16 September 2005).
- World Intellectual Property Organisation (WIPO) (2005), *Intellectual Property and Traditional Knowledge*, Booklet 2, New York.