A LEGAL FRAMEWORK FOR THE PROTECTION OF BIODIVERSITY RELATED TRADITIONAL KNOWLEDGE

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Abstract

This article outlines both the necessity of protecting biodiversity-related traditional knowledge in South Africa and some of the primary dilemmas related thereto. It critically analyses the variety of legal tools that can be utilized in the protection of this knowledge and discusses the appropriateness of protecting a knowledge construct, which is essentially difficult to delineate. In this respect, the article provides an overview of apposite intellectual property rights, the law of contract (including the regulation of access and benefit-sharing contracts in the new Biodiversity Act) and possibilities for the creation of a *sui generis* system that is specifically designed to protect biodiversity-related TK. It concludes that biodiversity-related traditional knowledge in South Africa can only really be protected through a comprehensive legal framework that includes *sui generis* protection by way of a collective or communal right.

1 Introduction

It is now a common phenomenon that individuals and corporate entities gain virtually unencumbered access to knowledge related to the customs and practices derived from bioresources and held by indigenous groups. This knowledge frequently forms the basis for research and development geared toward the patenting of new pharmaceutical and other products. Whilst bioprospecting has developed into a highly profitable enterprise, traditional knowledge holders do not necessarily reap the benefits of the utilization of their knowledge in these ventures. The entities who do benefit rarely recognize the contributions of original knowledge holders, much less share the benefits derived from it.

Notwithstanding the need for legal protection, current legal tools are not always appropriate mechanisms for the protection of traditional knowledge (hereafter TK). This is in part due to the nature of TK. As a knowledge construct it is fluid and dynamic and authorship is often (albeit not always)
collective and oral in nature. TK is, therefore, difficult to delineate as a tangible and defined entity. The dearth of legal protection can also be ascribed to the diminutive value attached to TK. Many legal systems provide less (if any) consideration to ideas that are not contained in a written format.

Arguably, a one-size-fits-all approach to TK is counter-productive. A regime that adopts a variety of mechanisms seems more appropriate. This article therefore attempts to assess legal mechanisms that could potentially form part of an overarching legal framework to protect TK. It focuses on both so-called defensive and positive (offensive) mechanisms. Defensive protection of TK consists of ‘measures that ensure that other parties do not successfully obtain IP rights over pre-existing TK’, and positive protection of TK is achieved through ‘existing legal mechanisms’, such as ‘contracts, access restrictions and IP’. The article also considers the development of a sui generis right to protect TK in light of the limitations of existing mechanisms.

2 Recent Developments

South Africa recently experienced its first major benefit-sharing arrangement in the form of the much-publicised agreement between the Khomani San people and the Council for Scientific and Industrial Research (CSIR). The San people for decades have used the hoodia, a succulent plant indigenous to Southern Africa, as a source of water and to suppress their appetite in times of food scarcity. It is this latter aspect of the hoodia and specifically the related bioactive compound known as ‘P57’ that became the source of interest.

Through their research (based on the knowledge gathered from members of the Khomani San community) the CSIR isolated P57, patented it’s pharmaceutical formulations for the treatment of obesity around the world and entered into a licensing agreement for the further development and commercialization of the product with Phytopharm, a British phytomedicine company. In 2002 the CSIR and the San Council reached a ‘memorandum of understanding’, acknowledging the rights of the San as ‘custodians of the ancient body of traditional knowledge’ and the CSIR’s role in developing the technology involved in extracting the plant’s anti-obesity properties. After further negotiation the CSIR agreed to pay the San eight percent of milestone payments made by its licensee, Phytopharm, during the drug’s clinical


development over the next three to four years. The San may also earn six percent of all royalties if and when the drug is marketed, possibly in 2008.

Similar benefit-sharing arrangements have been established in a number of (mostly developing) countries. Whilst these contractual arrangements can be beneficial for holders of TK, they do, however, have their limits as will be pointed out later.

The San-CSIR agreement came about despite a legal vacuum regulating access and benefit sharing at the time, but only due to substantial media attention and the assistance of a local lawyer willing to engage on behalf of the San community. Despite this outcome, some commentators are still sceptical about the over-all benefit for the community, raising concerns related to the nature and size of benefits derived from the agreement. This highlights the need for the creation of a comprehensive legal regime that could protect biodiversity related TK.

3 An integrated approach to the protection of biodiversity related traditional knowledge

The management and conservation of South Africa’s biological resources are intimately related to the way its being utilised by not only the general public, but specifically by those who hold special knowledge about the medicinal, cultural, agricultural or conservational uses of the properties of plants and animals. Protecting these types of TK has far-reaching benefits for biodiversity conservation over-all. As mentioned above safeguarding TK can be achieved through both defensive and positive means. However, these concepts are not mutually exclusive. In fact one could argue that an effective protective scheme should contain elements of both of these concepts.

3.1 Defensive protection of TK

Defensive protection of TK involves “taking measures to ensure unauthorized parties do not unfairly acquire intellectual property (hereafter IP) rights over other people’s TK.” Three types of defensive protection should be noted: (1) the use of databases to identify the prior art, (2) secrecy and (3) the imposition of a disclosure requirement as a condition for acquiring IP rights.

So-called prior art databases are created to prevent the filing of patents based on the unauthorized use of TK where the prior art is not readily

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6 WIPO TK Web Page, op cit n1.
available in discoverable (written) form to patent examiners in granting countries. These databases serve to make TK available, searchable, and exchangeable as prior art. A number of these databases exist in Africa, such as the World Bank’s ‘Database of Indigenous Knowledge and Practices in Sub-Saharan Africa,’ the Traditional Medicines Research Group’s database in South Africa and the Department of Botany’s database at Makerere University in Uganda.

A second solution is to ensure that knowledge regarding the properties and uses of bioresources are simply not disseminated. Appropriation has succeeded in part because of the willingness of communities to volunteer information about their life-long customs and practices. In some local communities TK may at any rate reside with one practitioner or knowledge holder, who would pass along the recipes of his or her secrets to the appropriate successor.

A third option is provided by so-called source disclosure and prior informed consent requirements. Patent statutes in several countries have been amended to require patent applicants to provide patent offices with information concerning the origin of the genetic resources in the invention and some proof of prior informed consent from government authorities, as well as TK holders. In South Africa, for example, the Patents Act is about to be likewise amended. In terms of the Patents Amendment Bill a patent application will be rejected (or may be revoked) if the applicant fail to disclose the origin of genetic material or fail to provide ‘adequate documentation of the prior and informed consent of traditional knowledge owners or holders for the sharing of ownership, control use and benefits’.

7 The most well-known example is possibly the Honeybee Innovation Database maintained by Honeybee Network of the Society for Research into Sustainable Technologies and Development in India.
9 http://www.mrc.ac.za/tramed/ (accessed 30 April 2003). The group is funded by the South African Medical Research Council and comprises of scientists from the School of Pharmacy at the University of the Western Cape (UWC) and the Medical School at the University of Cape Town (UCT).
12 Act 57 of 1978.
14 Section 25(A)(2)
15 Section 25(A)(3)
Thus in response to improperly granted patents on TK already in the public domain, the patent system provides remedies to TK holders. TK holders can oppose a patent application for an invention comprised of TK and/or can petition for cancellation or revocation of an improperly granted patent. This route was successfully used, for example on behalf of TK holders for Neem formulations as insecticides and fungicides in the EU and will soon be available under South African law as well.

Disclosure requirements are in line with international obligations flowing from the Convention on Biodiversity (hereafter CBD). Section 15(1) of the CBD, read with article 3, confirms the sovereign right of states to exploit and grant access to their natural resources, but leaves it to governments to tailor the details through national legislation. It makes it clear that access should only be granted on mutually agreed terms and that it should be subject to the prior informed consent of the state providing access to its resources.

With regards to the utilization of indigenous knowledge article 8(j) mandates the drafting of national legislation that would ‘respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities’, the promotion of the wider application with the approval and involvement of the holders of such knowledge, innovations and practices and also encourages the ‘equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.’ Thus, arguably applications for patents involving genetic resources should not be granted or should be subject to invalidation or revocation, if they do not provide information regarding the source and evidence of prior informed consent, even if the invention meets all of the substantive elements of patentability.

However, defensive regimes are not without their own particular set of difficulties. Whilst databases for example, serve to improve the information of the prior art available to patent examiners, such documentation may not be adequate to address the concerns of TK holders. First, documentation in a database will not necessarily prevent the patenting of commercial products or processes based on TK disclosed in the library. Second, documentation alone will not assure any return for holders of TK. Third, as the information contained in the database is in the public domain, it also prevents the holders of TK to apply for IP protection should they wish to do so.

Secrecy as a defensive device brings about a number of practical considerations. If the knowledge is known amongst several members of a

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16 WTO TRIPS Council *The Protection of Traditional Knowledge and Folklore Summary of Issues Raised and Points Made* (Aug. 8, 2002) WTO/IP/C/W/370 [hereafter WTO TK Summary] at 7. The Neem patent was revoked by E.U. Patent Office but has not been revoked in the U.S.

17 Article 15(4).

18 Article 15(5).


20 WIPO FF/M, op cit n10 at 89.
community, it may be hard to enforce a secrecy code. This becomes more of a challenge should the knowledge be shared amongst several communities, which is often the case. In the case of a single knowledge holder the drawback is that the TK practiced by the holder runs the risk of being irretrievably lost, unless that knowledge is documented or disseminated in some form.\textsuperscript{21}

Source disclosure and prior informed consent requirements raise a number of problems. First, the definition of the ‘prior art’ used to assess the novelty requirement of patentability differs amongst different national systems. In some national systems, an examination of the prior art does not consider publicly available or oral traditions outside of their jurisdiction. Yet, it is the oral art that provides the basis for most patent applications. Second, information on the prior art is not always readily available in discoverable form to patent examiners, especially where the invention contains TK originating from another country, exists only in oral form, or is documented in a language unfamiliar to patent examiners locally.\textsuperscript{22} However, some systems have addressed these difficulties by defining the prior art as ‘earlier disclosures in writing’ and that which ‘is already publicly known or used anywhere in the world’.\textsuperscript{23} In South Africa the definition of prior art is a wider one and provides both for oral description\textsuperscript{24} and use outside of South Africa.\textsuperscript{25} This means that both South African and other TK holders could challenge a patent in South Africa, but they cannot necessarily do this in other jurisdictions, as uniformity on this matter is currently lacking.

Third, source disclosure and prior consent requirements, whilst arguable in line with obligations stemming from the CBD, is not similarly authorized under the WTO Agreement on Trade Related Intellectual Property Rights (TRIPS). TRIPS does not require source disclosure of the invention for patentability and does not provide the absence of source disclosure as a basis for invalidation or revocation. It has been argued that requiring source disclosure may in fact amount to a contravention of TRIPS.\textsuperscript{26} The same commentator has suggested, however, that the source disclosure obligation may be compatible with TRIPS if, instead of adding it as a condition for granting a patent, source disclosure and proof of prior informed consent is required in order for a patentee to enforce his/her patent rights. Article 8.2 of the TRIPS Agreement permits members to adopt measures to prevent the abuse of IP rights. As an invention knowingly derived directly or indirectly

\textsuperscript{21} Legislative Options op cit n 19.
\textsuperscript{22} Ibid.
\textsuperscript{23} WTO TK Summary op cit n 16 at para 14.
\textsuperscript{24} Section 25(6) Patents Act 57 of 1978.
\textsuperscript{25} Ibid.
\textsuperscript{26} Pires de Carvalho op cit n 11 at 388 (arguing that patentability based on requirement of indication of origin of genetic resources and evidence of prior informed consent violates Articles 27, 29, 62 and 32 of the TRIPS Agreement).
Protection of Biodiversity Related Traditional Knowledge

from an illegal act, such as the unauthorized acquisition of genetic resources or associated TK, [may] be deemed abusive, a government may refuse to enforce such patent rights.27

Some developing nations have taken the position however, that the relationship between the CBD and TRIPS should be clarified, primarily by amending the TRIPS Agreement on this aspect. At a TRIPS Council meeting in 2003 a group of African and Caribbean countries stressed the need for a multilateral solution to this issue in the TRIPS Council. In a submission to the Council, the group called for an amendment of the TRIPS provision to: ‘require for a patent to disclose the country and area of origin of any biological resources and traditional knowledge used, or involved in the invention, and to provide confirmation of compliance with all access regulation in the country of origin.’28

3.2 Positive protection of TK

Positive protection of TK may be achieved within the existing legal framework by way of mechanisms such as IP law and contracts regulating access and benefit sharing. A third possibility is the development of a *sui generis* right for protection of TK.

3.2.1 *Utilizing the existing IP system*

Apart from challenging IP application, TK holders can also protect their knowledge by acquiring and exercising IP rights. The most prominent IP rights are copyright, trade secrets, geographical indications and patents.

3.2.1.1 Copyright

The scope for using copyright in the area of biodiversity related TK is limited. In Australia, TK holders have had success in utilizing the Australian Copyright Act to protect their artistic creations from infringement and in

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27 Ibid at 396. In the U.S., refusing to enforce patent rights because of IPR abuse is referred to as the ‘fraudulent procurement doctrine.’

28 Taking Forward the Review of Article 27.3B of the TRIPS Agreement, Communication from the Africa Group (IP/C/W/404) (June 2003) available at http://docsonline.wto.org (accessed 12 June 2003) [hereafter Africa Group]. Switzerland proposed that the issue rather be dealt with in the World Intellectual Property Organization (WIPO) and suggested amending the Patent Cooperation Treaty (PCT) of WIPO to explicitly enable parties to the PCT to require patent applicants, ‘to declare the source of genetic resources and/or traditional knowledge, if an invention is based on or uses such resource or knowledge’. Article 27.3(b), the Relationship between the TRIPS agreement and the Convention on Biological Diversity, and the Protection of Traditional Knowledge Communication from Switzerland (IP/C/W/400/Rev.1) (June 2003) available at http://docsonline.wto.org (accessed 1 September 2004).
Canada TK holders frequently file designs for copyright protection. In South Africa the amended definition of 'artistic work' which includes 'works of craftsmanship' would provide for protection of TK in this area. Copyright has also been used to protect databases storing TK, but not the content thereof. Databases established in South Africa would be eligible for protection in terms of the Copyright Act. However, as copyright protects expressions, but not ideas, procedures, methods of operation or mathematical concepts, undocumented knowledge regarding the value and use of bioresources does not fit within this definition.

3.2.1.2 Protection of undisclosed information: trade secrets
Trade secrets allow individual or legal persons to prevent information lawfully in their control from being disclosed to, acquired by, or used by others without their consent. Whilst TK is often in the public domain and shared or passed down within a community, knowledge of traditional practices is sometimes protected by secrecy in certain communities. Although trade secret protection is primarily designed to protect anti-competitive practices, it may be constructive in the protection of secretly held TK as its requirements are less stringent and more accommodating of TK than other forms of IP.

Trade secret protection requires that the information is not in the public domain, subjected to reasonable steps to keep it undisclosed and has commercial value due to its secrecy. Certain types of TK may qualify for trade secret protection, in particular information not known outside of a particular community or group. The fact that TK may be held by a group of people should not necessarily be a hindrance. In fact, the aim of the protection afforded is to safeguard collective entities such as corporations from untimely and unauthorized disclosure of their business practices and methods. The protection can be afforded to the community as a whole. In this regard it has been noted that 'if a shaman or other individual has exclusive access to information because of his status in the group, that individual or the indigenous group together probably has a trade secret.' The holders of knowledge may not ordinarily use TK for profit gain, but it is clearly sought after for its commercial value by those who are trying to gain access to this knowledge. As such it would meet the 'commercial value' standard. However, protecting TK by means of trade secrets requires

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positive action by the holder(s) of the information. Thus, unless a local community or indigenous group designates information as a trade secret and takes positive steps to protect it, any unauthorized acquisition or use by a third party would not be protected.35 Such positive action would include providing restricted access only to an outside third party who is contracting with the group to access the knowledge for research and commercial purposes.

3.2.1.3 Geographical indications & appellations of origin
Geographical indications, which incorporate appellations of origin, are defined in TRIPS as 'indications which identify a good as originating in the territory of a 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 geographic origin.'36 Appellations of origin are most often applied in relation to wine and spirits, for example Champagne from France, Sherry from Spain or Tequila from Mexico indicating not only source, but also traditional methods of preparation and suggestions of quality.37 A form of protection often used in the challenging of trademarks, geographical indications can be utilized to prevent the misleading use of any means in the designation or presentation of a good that indicates or suggests that the good in question originated in a geographical area other than the true place of origin.38 Attempts to register a trademark may thus be barred on the basis of an existing geographical indication.39 In addition, this form of IP protection can serve to prevent unfair competition.40

Possibilities for protecting TK associated with arts and crafts exist, such as the use of geographical indications and appellations of origin for the protection of the 'bogolan' or mud cloth in Mali.41 Products derived from natural resources indigenous to a specific geographical territory may qualify for protection, provided the concerned name has not yet become generic or semi-generic either locally or internationally.42 Geographic indications may become generic as a result of the owner’s failure to prevent others from using the term for other goods or services not necessarily originating from

32 Ibid at 66.
35 Article 22 (1) TRIPS.
36 Article 23 sets forth ‘Additional Protection for Geographical Indications for Wines and Spirits.’
37 Article 22 (2)(a) of TRIPS.
38 Article 22(3).
39 Article 22 (2)(b) of TRIPS.
40 WIPO FFM op cit n10 at 153.
41 Generic names are those identical with the common name for such goods in a specific region. See the exception to geographical indications contained in Article 24 (6) of TRIPS.
the region suggested by the geographic indication. The United States allows for use of 'semi-generic' names provided a correct appellation of origin is shown 'in direct conjunction' with the semi-generic designation.

Indigenous communities and other interested parties will need to ensure that geographical indications do not become generic or even semi-generic. Domestic protection may include a registration system such as the one used in Europe for wines and spirits. Protection against unfair competition should also be sought outside of the country by opposing or cancelling trademark registration in other countries. In addition, higher levels of protection for geographical indications should be included in bilateral free trade agreements.

3.2.1.4 Patents

A patent is an exclusive right granted for an invention, being a product or process that offers a new technical solution to a problem. The three criteria for patentability are (1) novelty, (2) non-obviousness and (3) usefulness. The granting of a patent gives the patentee the right to exclude others from making, using or selling the invention throughout the territory of the country where the patent has been filed. If the invention is a process, the right extends to the exclusion of others from using, selling or importing products derived from the patented process. This protection is granted for a limited number of years.

In order for TK to benefit from patent protection it must satisfy the above requirements. Novelty generally means that the patentable inventions should not have been known before. In other words, the invention should not have been anticipated in the 'prior art' anywhere in the world. This requirement constrains the use of patents as a form of protection for TK since no individual applicant from an indigenous group or local community can realistically claimed to have invented the matter at issue. The nature of TK is that it has been passed from one generation to another and may

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13 See L. Bendekgy and C. Mead 'International protection of appellations of origin and other geographic indications' (1992) 82 The Trademark Reporter 765, stating that courts have held that terms such as 'Swiss cheese,' 'Worcestershire sauce' and 'Chablis' for example, are generic.
41 26 U.S.C.A. § 5388 I.R.C. § 5388 (c). It includes a list of names such as Burgundy, Claret, Chablis, Champagne, Chianti, Malaga, Marsala, Madeira, Moselle, Port, Rhine Wine.
46 Ibid.
47 The EU-South African Free Trade Agreement contained specific protection for geographical indications pertaining to wine and spirit for names such as champagne, sherry, port, etc. South Africa will phase out the use of these names and eventually terminate the use thereof altogether.
48 WIPO FFM op cit n10 at 35.
49 Article 27.
50 Article 33 of TRIPS provide for a period of 20 years.
51 Watal op cit n45 at 91.
furthermore be known to other members of the community or group as well. It is therefore not new, but has in fact been in the public domain for generations. At the heart of this barrier is the fact that patent law is designed to reward individual creativity. TK is often collectively held, as such defying the notion of a single inventor. One commentator argues, however that the collective nature of TK production and ownership need not create a barrier to the acquisition of a patent as many corporations and research institutions already treat patents as collective endeavours.52

The second major requirement is that of non-obviousness or ‘an inventive step’. This requires that the invention must not be evident to a person of ordinary skill in that particular field.53 In an effort to provide more insight into this requirement courts have used considerations such as commercial success, long felt but unsolved needs, failure of others to make the invention, etc.54 Undoubtedly an inventive step exists within the realm of TK, however, it is difficult to say who the original ‘inventor’ was in the context of this requirement. The assumption of knowledge and ideas as an individual construct thus operates against holders of TK. The inventive step may also have occurred generations ago and would be difficult to trace. It has been noted, however, that TK is not necessarily inert, rather, it is intrinsically innovative and as such intellectual efforts continue to be improved upon and applied in modern times.55 As it is, the ‘test of inventiveness is subjective, since there is always a continuum between inventions and improvements and a determination of which gradation in the continuum rises to the level of inventive step is a function of how that gradation impresses the examiner or the bench.56

The utility criterion ensures that those products or processes that although novel and non-obvious, but without current practical application is prevented from being patented. TK would, for the most part fulfil this requirement as it has been utilized for generations within the community.

In addition to the above requirements, some countries require that the invention be patentable. Thus, for example scientific theories, discoveries of material or substances already existing in nature, and methods for the medical treatment of humans and animals are either not regarded as inventions, or if considered inventions, are excluded from patentability.57

Outside of the legal requirement for patents, one should also consider

52 Dutfield op cit n29 at 245.
53 Watal op cit n45 at 92.
55 Ibid at 181.
56 WIPO FFM op cit n10 at 36. See also S 25(2) and (4) of the South African Patents Act, for exclusions from patentability.
practical obstacles. One such challenge is the matter of cost. The cost of filing a patent may be prohibitively high for most TK holders. Finally, there are philosophical difficulties in fitting TK into the broader IP paradigm. IP inculcate definitions of authorship and creation that may be profoundly at odds with non-Western modes of creation. There are also questions of how indigenous communities view the use and sharing of their own knowledge. Whilst sharing of knowledge is for the very communities entrenched in their cultural values and customary laws and systems, IP law counters these traditions and beliefs and sharing carries a monetary value. Using IP to protect traditional knowledge will bring about a profound shift in how people construct their own practices and cultural values.

3.2.2 Protection via contract law

Given the difficulties in applying the classic IPR regime to TK, many countries and communities have taken the more pragmatic route in turning to contract law for a possible solution. Research institutions and pharmaceutical companies have established cooperation agreements with developing country governments and indigenous communities, whereby they receive prior informed consent to obtain biotechnological samples and utilize associated TK. In turn they agree to share the profits from any commercial product derived from the biotechnological material with the indigenous communities. The San-CSIR agreement is an example of such a benefit-sharing arrangement.

Where access to bioresources and associated knowledge and benefit sharing is not regulated, contractual arrangements take place in the context of the standard contract law. The law of contract creates a number of difficulties: First, it provides limited scope for defining the beneficiaries. Benefits may be restricted to the members of the community signing the agreement. This raises questions about the position of the successors of the community members who are the original contractees. In addition, since only the parties to a contract can enforce it successors to the original contractees may be left without a remedy if for instance the contract is rescinded.

Second, the law of contract assumes relative equality in bargaining strength. The truth of the matter is that most holders of TK do not have the capacity to negotiate fair terms. Even worse is that in the presence of a regulatory vacuum, a legal agreement depends in part on whether the research institution possesses the moral (and financial) authority and will to

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engage the local community.

Whilst there is no prescribed formula for contractual agreements, they can only really protect the interest of TK holders if they are created within a legal framework designed to regulate access to bioresources and associated TK. This is where the new Biodiversity Act plays such an important role. One of the stated objectives of the Act is to provide for 'the fair and equitable sharing among stakeholders of benefits arising from bio-prospecting involving indigenous biological resources' and 'to give effect to ratified international agreements relating to biodiversity which are binding on the Republic.' It creates a legal regime for access to South Africa's indigenous biological resources, as well as, the provision for and regulation of benefit-sharing agreements.

The Act addresses a number of the equity related concerns raised in contractual agreements. It makes the granting of a permit to conduct bio-prospecting conditional on the indigenous community whose TK will contribute to, form part of or be used for the bio-prospecting providing prior informed consent thereto. Furthermore it requires proof of a benefit-sharing agreement between the permit applicant and the indigenous community that provides for sharing of benefits that may be derived from the relevant bio-prospecting. The Act also provides minimum standard terms for such an agreement, most importantly the manner and extent to which the community will share in any profits or other benefits derived from commercialisation through bio-prospecting. The issuing authority has the discretion to not only engage both parties on the terms and conditions of a benefit-sharing agreement, but also facilitate negotiations to ensure equity. Final authority in terms of the approval of such a contractual agreement lies with the Minister. This is in line with the State's obligation as trustee of biological diversity. The provision should have the added benefit of safeguarding the community's interests as the Minister should ensure that the goal of fair and equitable benefit-sharing is met in a contractual arrangement between a bio-prospector and a local community.

The Act is a welcome addition to an overall legal framework to protect TK and not only fills a long-standing vacuum in our law, but it also brings South Africa into conformity with the CBD.

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60 Sections 2(a)(iii) and 2(b).
61 Sections 82(1)(b) and (3)(a).
62 Section 82(3)(b).
63 Section 83(1).
64 Sections 82(4)(a) and (b).
65 Section 83(2). The issuing authority may be called upon to certify that the agreement is 'fair and equitable'. Section 82(4)(c).
66 Section 3.
3.2.3 A Sui Generis System

Another somewhat unique form of positive protection is the development of a *sui generis* system specifically designed to protect biodiversity related TK. A *sui generis* approach modifies some of the features of existing IP rights so as to accommodate the requirements of the specific subject matter at hand. The idea of adapting IP law to fit new subject matter is not a new one. Several areas of IP have evolved to provide for new developments. For example patent law has expanded to provide protection for business methods and copyright law has been extended to protect computer software and databases. A number of legislative models exist around the world that has incorporated a *sui generis* model in the form of ‘collective/communal intellectual rights.’

The OAU Model Law for Protection of the Rights of Local Communities, Farmers and Breeders and for the Regulation of Access to Biological Resources (hereafter Model Law) attempts to provide a model for Africa. The Model law is instructive in many ways. First, it recognises that in many African countries some form of formal or informal communal control over biological resources does exist. Second, it also recognizes that States may not always be and in fact have not always been protective of the rights of communities over their local bioresources, or ensured that communities benefit from their knowledge and practices. Third, it acknowledges that traditional ecological knowledge and practices often differ significantly from Western concepts of intellectual property and as such warrants dissimilar protection.

It recognises ‘Community Intellectual Rights’ as rights that are enshrined and protected under community norms and practices and customary law. Article 16 of the Model Law specifically acknowledges the rights of communities over their biological resources and knowledge and the right to collectively benefit from the use of their biological resources and the utilization of their knowledge, innovations, practices and technologies.

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67 Some of these countries include Bangladesh, Brazil, Costa Rica, India, Peru, Philippines and Thailand. See GRAIN *Community Rights* available at [http://www.grain.org/brl/comm-brl-en.cfm](http://www.grain.org/brl/comm-brl-en.cfm) (accessed on 7 May 2003).

68 In April 1998, the then Organization for African Unity (OAU) (now known as the AU), through its Scientific, Technical and Research Commission initiated a draft Model Legislation on Community Rights and Access to Biological Resources. At the 34th Summit of Heads of State in 1998 a decision was made that Governments of Member States should formally adopt the Model Law. This initiative represents an attempt to provide an ideal legal framework for member states to develop their own policies, laws and regulations on access to bioresources.

69 Article 1 defines a ‘Local Community’ as a ‘human population in a distinct geographical area, with ownership over its biological resources, innovations, practices, knowledge, and technologies governed partially or completely by its own customs, traditions or laws.’

70 It states: ‘the State recognises the rights of communities over the following:

i. their biological resources;

ii. the right to collectively benefit from the use of their biological resources;}
Whilst Article 17 of the Model Law provides for the recognition and protection of community rights under the norms and practices of customary law, Article 23 reinforces the idea of placing the responsibility of determining what constitute those rights upon the communities themselves. It specifically notes that such community rights are IP rights that are inalienable and as such protected from appropriation. Furthermore, protection of ideas and practices exists without the requirement of a positive act such as registration and prior publication of TK does not preclude the local community from exercising the intellectual right.

Another 'collective' approach can be found in Costa Rican legislation, which uses as a departure point the recognition of the existence and validity of forms of TK and the need to protect them. It does not however, require prior registration or even prior declaration or explicit recognition in order for these rights to exist. As such it includes also future forms of TK. The process for defining the nature and scope of the right itself is a participatory process with the community itself and the legal format is an inventory of community practices, which is then registered. The Philippines have a similar communal right by way of a registered inventory and specifically provides for the equitable sharing of benefits derived from such a right.

An issue to consider is whether these collectively owned and exercised rights are compatible with the TRIPS Agreement. The preamble of TRIPS specifically provides that 'intellectual property rights are private rights'. The question would be whether this provision expressly relates to the IP rights enumerated in the agreement. IP rights such as patents, copyright, etc are for the most part privately owned and exercised. As indicated earlier, however, this is no longer the necessarily the norm. Furthermore, the notion of establishing a sui generis right is derived from the vacuum that exist within

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iii. the right to collectively benefit from the utilisation of their innovations, practices, knowledge and technologies;
iv. their rights to use their innovations, practices, knowledge and technologies in the conservation and sustainable use of biological diversity;
v. the exercise of collective rights as legitimate custodians and users of their biological resources;

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71 Article 23(2) states that ‘[A]n item of community innovation, practice, knowledge or technology, or a particular use of a biological or any other natural resource shall be identified, interpreted and ascertained by the local communities concerned themselves under their customary practice and law, whether such law is written or not.
72 Article 23(1).
73 Articles 23(3) and (4).
75 Article 83.
76 Article 84.
78 See page 18 above. Section 29 of the South African Patents Act provides for joint ownership of patents.
the realm of IP to cover those areas that do not fit under traditional conceptions of intellectual property. A *sui generis* right, therefore, would not have to be tailored as a traditional IP right. As such the ‘private right’ provision of TRIPS would not apply to a *sui generis* right.

The Africa Group in their submission[^79] tried to counter this interpretative obstacle by suggesting that the TRIPS Council as part of their review of Article 27.3(b) adopt a decision that would recognise TK as a ‘category of intellectual property rights’.[^80] This would provide States with the option of framing the right as a collective right if the nature of TK in their jurisdiction is primarily communal.

Currently neither South African patent law, nor the Biodiversity Act makes provision for a *sui generis* right. The Biodiversity Act in particular could have cast the scope of protection much wider. As indicated above, in many parts of the world traditional knowledge associated with biological diversity is now specifically protected by way of such a right as part of the regulation of access to bioresources.

4 Conclusion

Over the last few decades biodiversity has become a potential income generator in innovative and pioneering ways. The use of genetic plant and animal sources as the basis for biotechnology is a multi billion industry and access to bioresources (and associated TK) has given rise to a ‘Green Rush’ in ways that the discovery of gold led to the Gold Rush. Knowledge related to the customs and practices derived from bioresources should not in this process fall prey to unregulated appropriation. Comprehensive legal protection of traditional knowledge, therefore, requires a response that is pragmatic, yet innovative.

This article highlights various legal mechanisms that are available to protect traditional knowledge. In this regard the usefulness of conventional legal machinery such as IP rights and contract law and ways in which it can be interpreted to accommodate the more amorphous traditional knowledge systems cannot be taken lightly. A comprehensive legal framework, however, requires innovative responses that could be accommodated both in international, regional and domestic legal frameworks. Whilst the Biodiversity Act and proposed amendments to the Patents Act go a long way in filling the legal vacuum that currently exists in terms of South African law, the conceptualization of a *sui generis* ‘collective’ or communal right to TK will expand the scope of protection for indigenous communities and provide a truly integrated legal framework for the protection of TK.

[^79]: Africa Group op cit n28.
[^80]: Ibid.