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TRADITIONAL KNOWLEDGE AND BENEFIT SHARING AFTER THE
NAGOYA PROTOCOL: THREE CASES FROM SOUTH AFRICA

Roger Chennells

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1

INTRODUCTION

The two central frameworks that hold the debate in relation to indigenous communities within this article together are the fulfillments of the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (Nagoya Protocol) and the Convention on Biological Diversity (CBD). In particular, this article examines how these two international legal instruments have informed the debate surrounding benefit sharing agreements with indigenous communities and the role that traditional knowledge (TK) play within these agreements. In order for benefit sharing agreements to be successful, the issue of who owns TK rights becomes of central importance. Three recent case studies from South Africa are used to illustrate the different ways in which the question as to who are the legitimate holders of TK was resolved.

Beginning with the outline of the legal context of benefit sharing within international bioethics and biodiversity discourses, this article explores the conceptual controversies that are raised within the debate on benefit sharing and the concept of TK and how it becomes a controversial term when applied to specific contexts such as ownership of TK within indigenous communities in South Africa. In order to understand the context of the case studies, the article goes on to examine the particular known history and demographics of modern South Africa. This discussion throws some light on the complexity of the origins of communities and should find resonance in other countries where populations have been disturbed by centuries of migration and colonisation. Moreover, the use of three recent South Africa case studies as the main methodology highlights the practical application of incorporating rights to TK within contracts. In order for benefit sharing agreements to be concluded, TK rights-holding communities need to be identified as the recipients of the benefits. If these important agreements are concluded in haste, as one of the case studies indicates, the appointment of the TK holding community has the potential to cause conflict within indigenous and local communities.

Through use of the 'family secret' analogy, the article suggests the existence of a sense of morality and ethics behind the sharing of knowledge. Sharing takes place in a context of groups that are to some extent interdependent, forging an ethos and relationship of mutual reciprocity. The legal landscape sculpted by the CBD and Nagoya Protocol, it is proposed, is mostly rights based and creates new forms of value associated with TK.

South Africa has promulgated legislation in order to give effect to the legal regime required by the CBD, including the determination of TK holders associated with genetic resources for the purpose of benefit sharing. Some aspects of this legislation are discussed, in particular the provisions requiring identification of the appropriate TK holders. Some aspects of the legislation are singled out for criticism, for example the manner in which information is deemed to be disseminated to rural communities, and the lack of mechanisms for facilitating discussions where conflict relating to shared TK needs to be resolved. Three classic concerns related to the determination of TK-holding communities are then discussed in relation to the case studies. They are the need for knowledge to be long held, the need for the degree of sharing of knowledge to be incorporated, and finally the need for a coherent governance system to be in place.

Proposals have been made for states to assist traditional communities by creating *sui generis* forms of legal rights, distinct from modern forms of intellectual property rights. This article suggests that the distinctive right described as TK, which is jointly owned by one or more communities, is a form of common pool property. In each case this would need to be governed in accordance with known and approved rules. TK rights are shared resources, and an appropriate form of procedure as well as moral and legal criteria is needed in order to define and clarify them. The article describes some foundational elements of the ancient law of equity, and proposes that both procedural and substantive principles of this legal system are of potential use for such a complex determination of rights. In order for benefit sharing to be fair and equitable, in the words of the CBD, the recipients of the benefits need to be established in a manner that is appropriate, and that does not offend against the requirement of equity

and fairness. It should be noted that the remit of this article is limited, and that the concept of community protocols referred to in Article 12 of the Nagoya Protocol, which has potential relevance for TK issues discussed, has not been addressed below.

2 LEGAL FRAMEWORK AND CONCEPTUAL CONTROVERSIES

The Nagoya Protocol¹ provides a binding treaty framework promising benefit sharing not only to provider countries, but also to the indigenous and local communities situated in such countries that are holders of TK and who are associated with the genetic resources being provided. The Protocol is undoubtedly a significant step towards achieving one of the main objectives of the Convention for Biological Diversity, namely fair and equitable sharing of the benefits arising from access to genetic resources, at the same time ensuring conservation and sustainable use of biodiversity.² The formal introduction to the Protocol states that, 'the Protocol's provisions on access to traditional knowledge held by indigenous and local communities will strengthen the ability of these communities to benefit from the use of their knowledge, innovations and practices'.³ This article

addresses the practical attempts to apply the notions of ownership or holder-ship of TK that are central to the benefit sharing regime envisioned by the Protocol and interpreted by its constituent members.

The international discourse concerning the related concepts of TK, indigenous knowledge (IK), and indigenous knowledge holders leaves these terms fluid and deliberately less than clearly defined. The terms TK and IK are generally used interchangeably, sometimes also referred to as 'traditional environmental knowledge'.⁴ TK is generally accepted as being a body of knowledge entirely different from Western scientific forms, the detailed description provided by Johnson emphasising several distinguishing factors including its oral transmission, its intuitive rather than factual basis, and its rootedness in the traditional and spiritual cultural idiom.⁵

The transmission of knowledge takes place over countless generations, within the context of the traditional system. The associated term 'indigenous' has long evaded consensual demarcation, although the definition contained in ILO Convention 169 is widely accepted as an adequate basis for these discussions.⁶ International documents have expanded the term 'indigenous' by adding other related concepts, such as the phrase 'indigenous and tribal peoples' used in the ILO Convention 169, and the phrase 'indigenous and local communities' referred to throughout the Nagoya Protocol.

The word 'local' used in the Protocol throws the net wider and includes rural settlements that are not comfortably described as indigenous but are local and thus can be viewed as having potential claims to

1 The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity (CBD) is a supplementary agreement to the CBD. It provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilization of genetic resources. See Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity, Nagoya, 29 October 2010, available at <http://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>.

2 The three objectives of the CBD are conservation of biodiversity, access to genetic resources, and fair and equitable benefit sharing. See Convention on Biological Diversity, Rio de Janeiro, 5 June 1992, 1760 UNTS 79; 31 ILM 818 (1992), available at <http://www.cbd.int/convention/text/default.shtml>, Article 1.

3 Nagoya Protocol, note 1 above, p.1.

4 Graham Dutfield, *Intellectual Property, Biogenetic Resources and Traditional Knowledge* 91 (London: Earthscan, 2004).

5 M. Johnson, 'Research on Traditional Environmental Knowledge: Its Development and its Role', in M. Johnson ed., *Love: Capturing Traditional Environmental Knowledge* 3, 7 (Ottawa: International Development Research Centre, 1992).

6 Convention concerning Indigenous and Tribal Peoples in Independent Countries (ILO No. 169), 72 ILO Official Bull.59, entered into force 5 September 1991, available at http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312314:NO, Article 1.

TK rights to the resources in question.⁷ The important criterion that the status of an indigenous or tribal people is usually determined outside the mainstream of a state's system, or in other words that the group is not recognised or included in the governance of the country, is to be found in the ILO Convention definition of the term 'tribal', and in other attempts at defining the meaning of 'indigenous'.⁸ The ubiquitous word 'community', used freely in legal instruments, is notoriously slippery, and can mean anything from an extended clan to an entire regional population. Whether urban, rural, traditional, modern or mixed, communities may be characterised further by factors such as culture, language and geographic situation.

As Dutfield suggests, one should avoid a fixed and dogmatic idea of what TK holders and their communities look like.⁹ Other than merely focusing on a debate detached from the empirical world, this work attempts to reflect on how the concepts of 'indigenous', 'original rights' and 'holders' were built in practice by looking at three recent Access and Benefit Sharing (ABS) cases in South Africa. After exploring some of South Africa's early origins, the three case studies will then be introduced, together with a conceptual devise to understand how TK is passed down generations.

2.1 South African Demographics and Legislation

The question of who the indigenous and local peoples are is a crucial question if the CBD and the

Protocol are to be effectively applied. In South Africa, people live in a wide range of collectives; from industrial towns, rural townships, informal settlements and villages to remote and traditional or indigenous tribal clans. For the purposes of this article it is important to understand the general history and current demographics. The San or Bushmen were undisputedly the first peoples to inhabit the subcontinent, evidence of their prehistory indicating their presence between 20000 and 30000 years ago, a timing supported by the genetic record as concluded in Himla Soodyall's book on the prehistory of Africa.¹⁰

According to Alan Barnard, the next grouping to emerge in the archeological record was the Khoi, or Khoi-khoi, (including the Nama, Damara and other Khoi speakers). These were primarily pastoralist herders of sheep and goats, who were somehow related to the San, and who are generally estimated to have emerged between 1500 and 2000 years ago. The latter groupings are scattered throughout the country, some being merged to an extent within urban settlements, and are today referred to generally as the Khoi or the Khoe khoen.¹¹

Barnard confirms that the next clearly recorded waves of migration or colonisation were provided by the two primary groupings of Africans pastoralists, namely the Nguni group (Swazi, Ndebele, Zulu, Xhosa) down the east coast and the Tswana and Sotho group through the centre of the country. These migrations are believed to have commenced from about 1000 years ago. The Xhosa finally entered the southernmost Eastern Province

7 Note that the phrase 'indigenous and local communities' is used throughout the Nagoya Protocol.

8 Article 1 of the ILO Convention describes indigenous and tribal peoples as follows: (a) tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations; (b) 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 own social, economic, cultural and political institutions.

9 See Dutfield, note 4 above, at 94.

10 Himla Soodyall, *The Prehistory of Africa: Tracing the Lineage of Modern Man* (Cape Town: Jonathan Ball, 2006).

11 The Khoi (also called the Khoi Khoi, the Khoe or Khoe-khoen) are deserving of extensive treatment, and this article cannot do them justice. This article will primarily use the word Khoi. The South African Government recognises the National Khoisan Council as the representative body for the entire set of San and Khoi peoples. See N. Crawhall, 'Still Invisible: San and Khoe in the New South Africa', 13/3 *Southern Africa Report* 26 (1998). See also United Nations Commission on Human Rights, Human Rights and Indigenous Issues, Report of the Special Rapporteur on the situation of human rights and fundamental freedoms of indigenous people, Rodolfo Stavenhagen, on his Mission to South Africa, E/CN.4/2006/78/Add.2 (15 December 2005), p.7.

region of South Africa about 500 years ago. The resident San hunter-gatherers were in most cases forcibly displaced by the newcomers, whilst the historical record also indicates patterns of trade, intermarriage and cooperation.¹²

When the Dutch and other European traders started to settle in South Africa in the 16th century, a new wave of immigration, conquest and domination of resident populations commenced, one mirrored in colonial ambitions throughout the world. The doctrine of discovery regarded land held by indigenous populations as *terra nullius* and free for the taking.¹³ All descendants of the pre-European African invasion of South Africa, comprising the majority of the 50 million population currently known as Africans, regard themselves not only as being traditional in origin, but also as 'indigenous' to South Africa in the traditional understanding of the word.

Whilst the more isolated and tribal communities fall effortlessly into the clichéd remit of the narrow definition of 'indigenous', other communities who are 'indigenous to Africa', as described in the African Commission's working group on indigenous populations, do not self-identify as indigenous in the United Nations context, and reflect the inexorable drive towards urbanisation and modernity with increasingly tenuous links to their tribal origins.¹⁴

The San peoples, who have been reduced to a mere 9000 individuals in South Africa, still predominantly live in their own small communities, and are

governed by an elected San Council with representatives from the !Khomani, !Xun and Khwe language groups. Similarly, San Councils have been elected in neighbouring Namibia and Botswana, where their numbers are estimated at 35 000 and 55 000 respectively.¹⁵ Naturally, some San have urbanised and are not included as part of these communities. The San exist and are represented as an indigenous community at three distinct levels, for example the !Khomani San community of South Africa functions not only at local level but additionally through the South African San Council at the national level and through Working Group of Indigenous Minorities in Southern Africa (WIMSA) representing the San of Southern Africa at regional and international levels, respectively.

The South African Government promulgated the Biodiversity Act in 2004,¹⁶ and subsequently issued specific ABS regulations in 2008¹⁷ indicating its firm intent to give domestic effect to the principles contained in the CBD. Having ratified the Nagoya Protocol, the combined South African legislation provides an ABS framework managed by a designated clearinghouse which requires users or bio-prospectors *inter alia* to secure benefit-sharing agreements from the holders of TK relating to the genetic resources in question.¹⁸ An indigenous community is described in relation to its knowledge, namely 'as one whose traditional uses or knowledge of the indigenous biological resources; initiated or contribute to the proposed bioprospecting'.¹⁹ The regulations go on to define an indigenous community even more broadly, as 'any community of people living or having rights or interests in a distinct geographical area within the Republic of South Africa' and to include either a traditional

12 Alan Barnard, *Hunters and Herders of Southern Africa: A Comparative Ethnography of the Khoisan Peoples* 28-29 (Cambridge: Cambridge University Press, 1992).

13 'The Doctrines of Discovery, 'Terra Nullius' and the legal marginalisation of indigenous peoples in contemporary Africa', Statement by Indigenous Peoples of Africa Coordinating Committee to 11th session of the UN Permanent Forum on Indigenous Issues (UNPFII), available at http://www.osisa.org/sites/default/files/discovery_nullius_africa.pdf.

14 For a clear exposition of the traditional, and the United Nations related meaning of the word 'indigenous', see African Commission on Human and Peoples' Rights, Report of the African Commission's Working Group of Experts on Indigenous Populations/Communities (2005), available at <http://pro169.org/res/materials/en/identification/ACHPR%20Report%20on%20indigenous%20populations-communities.pdf>.

15 Roger Chennells, Victoria Haraseb and Mathambo Ngakaeaja, 'Speaking for the San: Challenges for Representative Institutions', in R. Wynberg, S. Schroder and R. Chennells eds, *Indigenous Peoples, Consent and Benefit Sharing: Lessons from the San-Hoodia Case* 165 (London: Springer, 2009).

16 South Africa, The National Environmental Management: Biodiversity Act 10 of 2004 [hereafter NEMBA].

17 South Africa, The Biodiversity: Access and Benefit Sharing regulations (BABS) promulgated 1 April 2008 [hereafter BABS Regulations].

18 *Id.* at chapter 6.

19 See NEMBA, note 16 above, Article 82(1)(b).

council where traditional uses of indigenous resources contribute towards the proposed bioprospecting, or where knowledge of the discoveries is to be used for the proposed bioprospecting.²⁰ These definitions rest heavily upon the concepts of 'traditional knowledge' and 'traditional uses' relating to the indigenous biological resources and the bioprospecting activity in question, in order to try and ensure that the benefit-sharing aims of the CBD are met.

The Nagoya Protocol, which attempts to prescribe more clearly the duties of states to ensure fair and equitable benefit sharing, sets out what is required in Article 5, which reads as follows:

Each party shall take legislative, administrative or policy measures, as appropriate, with the aim of ensuring that benefits arising from the utilisation of genetic resources that are held by indigenous and local communities, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over these genetic resources, are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms.²¹

This important article of the Nagoya Protocol, central to the issues discussed in this article, begs two important questions, both of which are threaded throughout the CBD as well as the South African legislation. First, how are the relevant TK holding indigenous and local communities to be identified and determined? And second, what exactly are the 'established rights' of such communities over these genetic resources?

2.2 Three Case Studies and a Moral Tale

In the discussion below, the two questions raised regarding the identity and rights of knowledge holders will be considered in the light of three ongoing ABS cases, which have raised issues and

problems believed to be applicable in other countries. The bare bones of these cases, namely the Hoodia,²² the Scelletium and the Pelargonium²³ cases, are briefly as follows:

1. **Hoodia** - The San peoples used *Hoodia gordonii* (Xhoba) which grows in Southern Africa, *inter alia* for its appetite suppressant qualities. This aspect of the San TK guided the Council for Scientific and Industrial Research (CSIR) in their research, which resulted in the registration of a patent in 1996. The San challenged the patent in 2001, claiming rights based upon their TK, and the CSIR acknowledged the San as the knowledge holders. A benefit-sharing agreement was signed in 2003 providing San with a 6% share of future royalties. The patent was unsuccessfully licensed first to Pfizer Inc,²⁴ and then in 2005 to Unilever. Currently the CSIR is planning a new commercialisation plan for the Hoodia, with the San as (minor) joint venture partners. Many other rural communities who are not San utilise and have knowledge about the use of Hoodia. None have claimed TK rights, presumably because the San were acknowledged as being the primary knowledge holders. In Namibia the San and the Nama negotiated an agreement in 2010 to share benefits relating to the Hoodia and other indigenous plants. The TK rights relating to the Hoodia patent were however awarded solely to the San on the basis of them being primary knowledge holders in time.

²² See Wynberg, Schroeder and Chennells, note 15 above.

²³ Misaki M Koyama and Mariam Mayet, *Bioprospecting Biopiracy and Indigenous Knowledge: Two Case Studies from the Eastern Cape Province, South Africa* (Johannesburg: African Centre for Biosafety, 2007).

²⁴ Both Pfizer and Unilever, after some years of research and development, decided to discontinue the license based upon the CSIR P57. See Wynberg, Schroeder and Chennells, note 15 above at 100. Currently, CSIR is responsible for the development of the patent in collaboration with the San.

²⁰ See BABS Regulations, note 17 above, definitions.

²¹ Nagoya Protocol, note 1 above.

2. **Sceletium tortuosum** - The *Sceletium tortuosum* (Kanna, Kougoed) grows in South Africa. The San peoples originally held TK relating to the plant, but over countless centuries knowledge of its mood-enhancement properties became widespread not only amongst the San but also amongst other rural communities (Nama, Baster, Koranna) and in the Northern Cape region. A patent was registered in 2000 after a researcher named Nigel Gericke utilised knowledge and assistance from Nama-speaking traditional healers from two rural villages in the Northern Cape region, namely Nourivier and Paulshoek. The patent holder, HGH Pharmaceuticals, acknowledged the San as being the 'primary knowledge holders' of the TK, and entered into a benefit-sharing agreement to pay royalties to the San in the event of commercial success. In an attempt to respond to the fact that the two rural communities had contributed towards the patent, and were in addition knowledge holders, the San insisted that the agreement should provide for an allocation of 50 per cent of the entire royalty received to the villages of Nourivier and Paulshoek. An advance in lieu of royalties has been paid annually since 2008, the product has been released and a formal market release of the product took place in mid 2013.²⁵

3. **Pelargonium sidoides** - *Pelargonium sidoides* is widely used in Europe to combat respiratory infections, and has a broad range of traditional uses, including for other health problems. The international company Schwabe Pharmaceuticals negotiated a benefit sharing agreement with a Xhosa grouping in the Eastern Cape who claimed TK rights and who also provided access to the resource, which

grew wild on their tribal land.²⁶ The local community was paid harvesting fees for the product. The same company applied for a range of patents in Europe relating to the Pelargonium, which were successfully challenged by a group of opponents including a different Xhosa community. The question of who 'owns' the TK related to the Pelargonium is unresolved and is being addressed by the Department of Environmental Affairs. The San have recently voiced their claim to be joint holders of the TK, on the basis that they passed it on in previous centuries *inter alia* to the Xhosa peoples. The San and Khoi peoples have yet to formally register their concern about not being included.

In order to shed light on the two main problem areas discussed in this article, that is 1) the identification of the TK holding community, and 2) the understanding of what is the nature of the particular right that communities claim to hold, the following moral tale is proposed:

Imagine that family A holds a valuable and 'secret' health-giving recipe, passed down from generation to generation by the mothers. Perhaps this secret could be a unique and special recipe for a cake.

Family A meets regularly with families B, C and D over the years, and the mothers in family A share the secret. The mothers in families B, C and D who receive the recipe are all grateful, and use it to their advantage within their families and beyond. The cake is used far and wide.

Some years later, the secret recipe, due to a change in conditions, unexpectedly becomes a highly sought after and valuable commodity. Depending upon the circumstances, three different possible scenarios are imagined:

²⁵ The patented Sceletium product is marketed as 'Elev8' and claims to elevate moods and to assist in coping with stress.

²⁶ It should be noted that doubts have been levelled at the TK claims for use of this plant as a bronchial remedy, stating that TK links are tenuous. See J van Niekerk and R. Wynberg, 'The Trade in Pelargonium Sidoides - Rural Livelihood Relief or Bounty for the 'Bio-bucaneers'' 29/4 *Development Southern Africa* 530 (2012).

1. A patent was taken out based upon family A's secret, which had been published in a journal and which was worked on by researchers. The patent holders approach family A as TK holder to discuss sharing the proceeds.
2. A patent was taken out based upon family A's secret. However researchers were assisted by the mothers in family B in developing the secret recipe into a patent. Patent holders approach family A to share benefits, who insist that family B should also be included in the benefit share.
3. A patent was taken out and a thriving market is developed, based upon the secret recipe, which has been in the public domain for centuries. Patent holders approach family C which agrees to sign a benefit-sharing agreement with no reference to the other families. Families A and B feel this is not right.

This article suggests that the manner in which TK is shared corresponds with the manner in which families might share such a secret recipe. The Hoodia case is essentially analogous to case number 1, where the original family A was the San, who became primary beneficiaries of the benefit sharing agreements. The Sceletium case has been approached in a manner analogous to case number 2, where the San family A offered a 50 per cent share of the royalties to family B, namely the group that actively contributed to the patent. And finally the Pelargonium case reflects the more complicated situation in case number 3, where the secret has been 'out' in the public domain for many decades, and the issue of who should be the beneficiary or TK holder has become far from a simple matter. It is not clear who is entitled to claim the TK. In practice then, how are TK holders normally determined?

3

DETERMINING THE TK HOLDERS

South Africa's rich biodiversity has long been explored by bio-prospectors seeking commercially

valuable genetic resources and who would customarily glean useful plant knowledge from local communities. The meaning of the word community, utilised so freely in ABS and other developmental discourse, is deserving of closer attention. The nature and extent of the community being referred to is usually indicated by the context of the use, and is thus seldom explored or challenged in practice. For example the statement on benefit sharing by the Human Genome Organisation describes the entire range of different communities that might require consideration during genomic research, including 'communities of origin' (for example family, geography, culture, history, race, religion) and 'communities of circumstance' (shared interests, workplace, disease).²⁷ Where TK has been shared over centuries of migrations, it would be theoretically possible for a community of interests (those that have the knowledge) to become separate and distinguishable from the community of origin (geography, language). Clearly then where it is sought to identify specific legal rights, namely the right to claim benefits as TK or knowledge holders relating to a certain plant, greater specificity on the word 'community' is required; continued avoidance of the issue may then lead to ABS legislation becoming unintelligible and less enforceable.

The South African ABS legislation envisages the answer to this complex question being provided first by the community itself, which is defined as a stakeholder, and is assumed to have the capacity to assert its TK rights.²⁸ A further implication is made by the requirement that the intended user or bio-prospector who wishes to negotiate a benefit-sharing agreement must identify the TK holder and negotiate a benefit-sharing agreement.²⁹ Both of these notions have proved optimistic. For example, two key assumptions are made by the legislation in the definitions and the process referred to above. The TK community should be clearly evident and identifiable in relation to specific plant resources, and would thus automatically claim its rights as the

²⁷ Human Genome Organisation (2000) HUGO Ethics Committee, 'Statement on Benefit-Sharing' (9 April 2000), available at http://www.hugo-international.org/img/benefit_sharing_2000.pdf.

²⁸ See NEMBA, note 16 above, Article 82(1) (b).

²⁹ *Id.*, Article 82 (2) (b)ii.

knowledge holder. Second, the bio-pro prospector should be able to identify the relevant TK community after having first researched the published ethno-botanical or anthropological record.

Both of these processes could in practice lead to illogical, opposing or inconclusive outcomes. In the Pelargonium case, for example, neither the San nor the Khoi communities were timeously made aware of the benefit-sharing agreement, and the bio-pro prospector failed to engage correctly with the TK-related facts. It should be borne in mind that in South Africa, as in many other countries, there is a lack of relevant historical, anthropological or ethno-botanical knowledge. Relying on experts can only be one component of the process. The South African legislation provides further that the user/permit applicant (bio-pro prospector) be required to provide the government with all information concerning the process of establishing that the correct TK holder has been identified, a requirement that obliges bio-pro prospectors to engage scientists, researchers or other bio-pro prospectors to assist them with the complex fields of anthropology or ethno-botany.³⁰

Indigenous peoples are seldom satisfied with the credibility of experts as being the final arbiters of their knowledge. San leaders have pronounced themselves to be mistrustful of the Western system of written knowledge, in response to the call by governments and companies for proof in the form of publication as evidence of TK. Andries Steenkamp, !Khomani San leader, stated during a meeting with government officials:

‘Our knowledge is oral. We reject the idea that for it to be true it must be written down and recorded by white academics’.³¹

Indigenous peoples, if properly engaged on the issue, are in most cases able to find an equitable response to the question of TK holder-ship; to engage with one another and to seek agreement with regard to their mutual rights as knowledge holders relating to certain plants.

Some further difficulties with the application of the South African ABS legislation are apparent. Once a prospective benefit sharing agreement is placed before the Minister for approval, this information may be published in the Government Gazette in order to invite comments from interested and potentially opposing parties.³² This well-intended provision in favour of other knowledge-holding communities can be viewed as less than useful, due to the fact that the Government Gazette is a formidable and distant official publication. It is inaccessible to all but the most dedicated researchers. How could this important information possibly be assumed to reach indigenous or local communities in this manner? It appears that few if any objections from TK holders have ever been elicited by such publications. It would be reasonable to expect the Minister, as part of the clearinghouse responsibilities, to create a database of all known indigenous organisations and to disseminate such information to them, rather than rely upon the formal Government Gazette.

On the basis of all the information received, the Minister is theoretically deemed to be in a position to apply his or her discretion, and to make a final determination that the published benefit-sharing agreement is not only fair and equitable but also that it fulfills all the legal requirements.³³ The Minister may consult with any person, including a team of experts, and may invite public comment, prior to making a final decision. Significantly, the word ‘may’ in the text indicates that this is optional. Furthermore the law is silent on how one would determine a dispute of rights between two or more communities in relation to the TK in question should any community object as a result of the Gazette notification, this not being one of the appealable matters set out in Article 14. Another serious failing of the legislation relevant to this article is that no processes to resolve claims that might overlap or compete are provided.

TK rights to traditional medicinal knowledge are normally shared freely between cultures and neighboring groups over centuries.³⁴ The central issue then becomes one of what group, tribe, clan, community or region could claim with confidence

³⁰ See BABS Regulations, note 17 above, Regulation 8(1).

³¹ Statement by Andries Steenkamp at the meeting between the South African Government and San leaders at Cape Town, 22 November 2011.

³² See BABS Regulations, note 17 above, Regulation 17(4).

³³ *Id.*, Regulations 17(3) & (4).

³⁴ See Dutfield, note 4 above, at 71.

to be the sole knowledge-holder of specific TK, and on what basis. The question remains however whether such an exclusive claim can be justified by the largest and most assertive group that possesses the knowledge and is still currently utilising it. What about the rights of an earlier or original group that might have freely passed on, or donated, the knowledge to subsequent invaders? All of these questions weigh heavily upon any decisions made by the Minister regarding the identity of the TK holding community. Given these difficulties it is important to note that such a decision is required in order to implement the benefit sharing principles of the CBD.

Based upon a synthesis of published writings referred to above regarding the existence and transmission of TK within indigenous populations, the following three criteria require assessment in order to validate a community's claim to be a valid TK holder. First, the TK should be long held within a TK system. Second, the degree to which the TK is exclusively held, or jointly held with others should be considered, and third, the existence of a coherent and functioning leadership or governance system in the TK community should be confirmed.

3.1 Knowledge Long Held

A central question in the debate on TK claims is how long must the knowledge have been held by the group? Based upon the history of benefit sharing in South Africa, there seems to be an intuitive acceptance that a community that acquired or gained the TK relatively recently, or in a manner inconsistent with an indigenous knowledge system (such as a commercial farmer who acquires knowledge from a nearby community), cannot claim to be a genuine TK holder. The San claimed the description that they held the knowledge since time immemorial and that they therefore regarded themselves as prior knowledge holders with regard to the Hoodia and Sceletium cases. These terms were accepted both by the companies seeking to negotiate as well as the Department of Environmental Affairs.³⁵

³⁵ The Hoodia case is described in detail in R. Wynberg & R. Chennells, 'Green Diamonds of the South: An Overview of the San-Hoodia Case', in Wynberg, Schroeder and Chennells, note 15 above at 89. The Sceletium agreement is unpublished, available from the San Council of South Africa.

The use of these terms was based upon the assertions of the San that they were acknowledged generally as being the first peoples on the subcontinent, and was in addition supported by anthropological and archeological evidence.³⁶ In their opposition to the Schwabe Pelargonium patents, the African Centre for Biosafety, acting on behalf of the 'community of Alice', similarly claimed in pleadings that the local community had utilised the TK relating to the Pelargonium 'since before recorded time'.³⁷ Whilst their use of the term might be strictly defensible in that there were no records two hundred years ago, their failure to acknowledge the existence of the San and Khoi peoples as prior knowledge holders in the Eastern Cape raises concerns.

Although the Xhosa speaking opponents to the Pelargonium patent³⁸ did not claim exclusive ownership or rights as knowledge holders, their claimed TK rights were unchallenged in the patent appeal proceedings and deemed sufficient to provide their *locus standi*, or legal standing, as indigenous knowledge holders. Failure of the San or the Khoi to object was not surprising, considering the dispute took place before the European Patent Office and was not covered by any government or other publications in South Africa. It is not disputed that certain rural Xhosa communities have rights to provide or deny access to the Pelargonium plants growing in their area, or that through their traditional healers they have a legitimate claim to the TK relating to the plant's usage. However, the Pelargonium case brings to light a more complex question relating to rights, namely the extent to which the TK community is legally entitled to benefit from exploitation of the Pelargonium plant and how other groups that are excluded should respond?

The fact that the opponents to the patent case were described as the 'community of Alice', the latter a rural university town run by a local council within

³⁶ References to the San first people status include Soodyall, note 10 above and Barnard, note 12 above.

³⁷ The pleadings for the patent challenge by the African Centre for Biosafety are available at <http://www.acbio.org.za/index.php/publications/biopiracy?start=10>.

³⁸ The opponents are described in the patent opposition papers as the 'Alice community'.

a Xhosa-speaking region of South Africa's Eastern Cape province, indicates the fragility of the TK holder identification process. If Xhosa communities claim such TK holder rights, as they did in this case, what is the nature and extent of this indigenous community? The Xhosa people comprise a powerful South African tribe strongly represented in government, having produced both recent presidents Nelson Mandela and Thabo Mbeki. Therefore, how does one define the extent of a TK or knowledge holding community when it might represent a significant proportion of a country's citizenry, such as the Xhosa people?

The question as to the TK rights of rural communities in Southern Africa who have acquired knowledge relating to the Hoodia over the past centuries has frequently been raised.³⁹ Currently, only the San are acknowledged in the CSIR benefit sharing agreement as TK holders, to the exclusion of many other linguistic or geographically defined potential communities. It has been explicitly accepted by the parties that the San priority in time provides a coherent reason that is inherently acceptable to other indigenous communities for their acknowledgement as knowledge holders. The *Hoodia gordonii* also grows in Namibia, giving rise to cross-border questions. The San subsequently entered into negotiations with leaders of the Nama community in Namibia in order to clarify their relationship and their respective rights with regard to TK.⁴⁰

The fact that many members of the Nama or San communities are not individual knowledge holders, or even resident in the core settlement areas, did not prevent either of these two bodies from negotiating with each other to resolve and determine the issue of their respective rights. During the lively debates between San and Nama delegates, which are recorded in the minutes of the parties and also remain unpublished, the San utilised the term 'primary knowledge holders' in order to distinguish themselves from other valid but chronologically later knowledge holders, who had emerged many

millennia after them.⁴¹ This term was understood and accepted by the Nama as being appropriate, and as providing persuasive moral grounds for the prior, and therefore to a certain extent stronger, TK claim of the San. In summary, this discussion confirms the perhaps obvious criteria, namely that knowledge needs to be long held in order to validate TK rights.

3.2 Exclusive or Shared Knowledge?

It is a recurring theme in this article that TK, like the secret cake recipe, is seldom unique or exclusive to one community. The manner in which knowledge about the properties of the Hoodia is now widely held in rural communities in the arid regions of Southern Africa is testimony to the healthy sharing ethos that existed in the past, and as the Nama and San discussions attest, a sense of morality seems to be active and persuasive when the issue of benefit sharing is discussed.

Other potential complexities of knowledge sharing should also not be denied. For example certain properties of plants might well have been discovered at different times, so that the first sharing or discovery of such knowledge would become truly lost in the mist of time. Any claim of exclusive rights by a TK community should be tempered by this reality, whilst claims of relative latecomers would be taken less seriously. The millennia of migrations, conquest, intermarriage, cultural mixing and trading of both commodities and knowledge that preceded recorded history provide ample reason why knowledge regarding plant use in particular is so widespread.

The San, who were the first and only peoples on the African continent for countless millennia, lived predominantly as hunter gatherers until relatively recently, with some small communities and pockets still living much as their forefathers did to this day. These communities did not hesitate to share knowledge and information with those in need, as part of an ethos of goodwill, barter and reciprocal

³⁹ See Dutfield, note 4 above and Wynberg, Schroeder and Chennells, note 15 above.

⁴⁰ The Nama peoples in Namibia are represented in seventeen traditional communities by elected leaders, who together form the Nama Traditional Leaders Association of Namibia.

⁴¹ It is commonly estimated that the Nama as an identified people emerged as herders in Southern Africa approximately 2000 years back, whereas the pre-history of the San is estimated from rock art and other sources as being between 30 000 and 40 000 years. See H.P Steyn, *The Bushmen of the Kalahari* (Cape Town: Juta, 1989).

exchange that bound people in relationships of mutual reciprocity.⁴²

Anthropologists have described how the San shared their knowledge of medicinal plants and other natural resources with all tribes and peoples who subsequently migrated to their lands, and it is reasonable to believe that this was the norm.⁴³ Anthropologists have hesitated to extrapolate exactly how these exchanges took place, beyond suggesting that the processes of use and sharing would have been inherently flexible, and that knowledge, whilst incorporating moments of discovery, would have remained inherently dynamic.⁴⁴ For example amongst the components of TK, Johnson cites that it is oral, holistic rather than reductionist, intuitive rather than analytical, and that it 'derives its explanations from cumulative, collective and often spiritual experiences' which are validated seasonally through cycles of activities.⁴⁵

The Xhosa speaking people, migrating to the Eastern Cape as recently as 1400 AD, found the San and other Khoi tribes already resident. Whilst little is known about the precise nature of their early interactions, what is clear is that the Xhosa borrowed widely not only from the San and Khoekhoe languages,⁴⁶ but in addition and more pertinently for this article, paid deference to and learned avidly from the San medicinal healers.⁴⁷ San knowledge of plant use was regarded as vital for survival in the newly colonised territory, and Xhosa medicine men trained, as well as took on the spiritual and medicinal beliefs of their

San forebears. The Xhosa name for healer is 'uGqira', a San word, and many spiritual practices still carry ancient San beliefs and terminology. A documentary film named *Iindawo Zikathixo* (In God's Places) refers to the sacred places originally used by San healers, and vividly documents how modern Xhosa medicine men continue healing and spiritual practices learned in past centuries from the San.⁴⁸

Regarding Pelargonium, nobody would deny that members of the Xhosa rural communities have acquired over time and currently hold TK rights to the medicinal knowledge. However, it should also be clear that this knowledge was received by them, and shared with them by the San forebears, in a similar manner to the Nama referred to above. One might question why the San have never challenged the Xhosa communities regarding their benefit-sharing agreement with Schwabe. The response of a San representative to this enquiry was that it is unseemly and rude to challenge another community on such a matter, with whom they have not been invited to engage on the issue.⁴⁹ Asserting objections under such circumstances is no simple matter. In addition, they have not been placed in possession of information requesting their views on Pelargonium (the Government Gazette announcing the agreement, if ever published, was never made available to them or seen by them). Finally, the San leader stated that if at some stage a forum is created in which the respective representatives of different communities of TK holders may meet and discuss their respective rights, at that stage it would be appropriate to exchange views and to resolve the issue.⁵⁰

Underlying this view is a belief that the TK right at stake is not one of ownership in a typical Western or developed world sense, where one party claims exclusivity resulting in the rejection of the claims of others, but is a right based upon morality, equity

42 Exchanges would typically take place in informal relationships of mutual reciprocity first examined by Mauss in his book *The Gift*, and would typically include all of the commodities needed for survival, including how plants could be used to treat illnesses. See Marcel Mauss, 'Essai sur le don', in *Sociologie et Anthropologie* (Paris: Presses Universitaires de France, 1950) and Marcel Mauss, *The Gift: The Form and Reason for Exchange in Archaic Societies* (London: Routledge, 1990).

43 See Steyn, note 41 above.

44 See Johnson, note 5 above.

45 *Id.* at 8.

46 The additional 'click' sounds in the Xhosa language were derived from interaction with the San people that they found and subsequently subjugated. See Steyn, note 41 above.

47 Frans E. Prins and Hester Lewis, 'Bushmen as Mediators of the Nguni Cosmology' 31/2 *Ethnology* 133 (1992) and Frans Prins, 'Secret San of the Drakensberg and Their Rock Art Legacy' 23/2 *Critical Arts* 190 (2009).

48 Documentary film directed by Richard Wicksteed and produced by Irene Staehelin. KhoiSan Awareness Campaign, 2007. Details available at <http://whoswho.co.za/richard-wicksteed-42053>.

49 Personal correspondence (20 April 2011) Chairman of SA San Council Andries Steenkamp.

50 *Id.*

and fairness, where all relevant factors are able to, and should, be taken into account. Surely TK that has been shared over many centuries has become something of a common pool resource in the words of Elinor Ostrom, which resists and buckles under the attempts of external agents, including lawmaking governments, to impose private property type rights.⁵¹ One of the issues that is faced by managers of common pool resources is how to deal with *free-riders*, or those that in one way or another act opportunistically with regard to the resource. The San response to the claim of TK rights by the Xhosa community in respect of *Pelargonium* impliedly regarded that as such an opportunistic act, which should be rectified in the interests of all those that benefit from the common resource. A new model of sharing of TK rights is offered in the *Scelletium* case, where the San were acknowledged by the user HGH Pharmaceuticals, based upon their own research, as being the primary knowledge holders.

As described above in the *Hoodia* case, it was common knowledge that healers in most rural communities in the Northern Cape would have known and used the properties of the plant. In particular it was conveyed to the San that certain healers in two particular rural communities had assisted and contributed actively over many years towards the original research that led to the *Scelletium* patent. Negotiations between the San and the leaders of the Nourivier and Paulshoek communities commenced in order to address this issue, with fairness and equity as the objective. The San offered to convey fifty percent of their financial benefits under the agreement, in an attempt to ensure an appropriately fair benefit or reward to these communities. The percentage was arrived at in the spirit and ethos of fair play, in view also of the unenviable difficulty of motivating any other more substantive formulations. The fact that some members of these two communities happened to come from the Nama linguistic group, or that others in the communities had not contributed towards the research at all, was not regarded as significant in the decision to share the benefits in a broad-brush manner most likely to be perceived as being fair.

⁵¹ Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 2006).

The following clause, reflecting the desire of the initial parties to strike a fair and generous balance in allocating benefits from the commercialisation of the *Scelletium* patent, appeared in the preamble to the agreement:

Both the San and HGH acknowledge that a wide range of communities in South Africa have over the centuries acquired knowledge relating to the *Scelletium*, and that one community in particular provided detailed ethnobotanical information to researcher Dr Nigel Gericke on folk-uses of *Scelletium*. This community, namely the rural community of Paulshoek/Nourivier, has been identified by the parties as a secondary beneficiary of the rights flowing from this agreement, as is set out below.⁵²

It must be admitted that in the absence of further explication, this formulation of a fifty percent split does not assist or guide other knowledge holding communities who might have other more nuanced narratives of information sharing. Whilst the discussions and criteria applied are not evident from the agreement, it must be accepted that the fifty percent decision might well have been motivated as much by pragmatism in the form of the desire to reach an amicable accord, as by any attempt to calculate or calibrate the respective value of their respective contributions.

3.3 Leadership and Governance

A leadership structure is to some extent implied, but not an essential component of an indigenous community. It should be noted that traditional or customary communities in South Africa are impacted by draft legislation⁵³ attempting to clarify traditional leadership structures, and the customary laws that apply to those communities. A pervasive notion persists, perhaps gained from an idealised imagery of TK holders, namely that the TK holding

⁵² San HGH Benefit Sharing Agreement, not yet published (on file with LeanaCloete at leanacloete@gmail.com).

⁵³ See Traditional Leadership and Governance Framework Amendment Act, 2003, available at <http://www.info.gov.za/view/DownloadFileAction?id=68019> and the National House of Traditional Leaders Act, 2009, available at <http://www.info.gov.za/view/DownloadFileAction?id=150569>.

community should be at least geographically distinct. The South African definition relies upon geographical distinction. However, the reality shows this notion to be simplistic and problematic in the extreme. Many groups as discussed above (such as the San, Nama, Sotho, and Tswana) have populations not only spread over more than one country, but also dispersed within culturally and linguistically mixed settlements.

In practice and as evidenced by the three case studies above, identification of TK communities for ABS purposes is most often done by reference to language, as perhaps the most convenient and tangible marker of culture. Linguistics alone as a source of definition of a community is however only a partial guide, understandable as a desire for simplicity rather than complexity. In the Northern Cape of South Africa for example, previous Khoi, Griqua, Nama or Baster communities have generally begun to speak Afrikaans, for centuries the language of the dominant group, with fewer and fewer groups retaining their former languages. Determining the parameters and extent of these linguistically and geographically fractured groups for TK purposes would be difficult.

Cori Hayden warns against the assumption that groups exist,⁵⁴ and states that a prerequisite for engagement with (and for the existence of) a community is that it must have 'a system of legitimate political representation'.⁵⁵ The established governance or leadership structure should thus be the appropriate body not only to assert rights, that is to negotiate and formally reach agreement on material transfer and benefit sharing, but would also be the conduit for receiving and properly disbursing funds. The Nama Traditional Leaders Association of Namibia referred to above was thus able to coherently negotiate with the San and their own (Namibian) government relating to their TK rights. This group recently formed a constitutional framework to unify the Nama peoples in Namibia, and to legitimately represent seventeen recognised

traditional regions, each with its own structure and chief, in relation to the outside world.

On the contrary, the Pelargonium patent challenge and ongoing dispute between various Xhosa-speaking role-players has laid bare the latent confusion over who was entitled to claim to be TK holders of the plant. The German company Schwabe, hasty to comply with the ABS regulations, had signed benefit sharing agreements with a small rural Xhosa-speaking community in the Eastern Cape, which was itself part of a larger community ruled by a chief.⁵⁶ This is an example of how persuasive bio-prospectors are able to persuade leaders of a possible TK-holding community to sign a benefit sharing agreement rather than to properly investigate and establish the true TK holders in relation to a plant. Rural community leaders are thus not only vulnerable to financial inducements, but are often unaware of the existence of other knowledge holders.

As evidenced by the case of the Maya Indians in the Mexican Chiapas highlands, where benefit-sharing negotiations finally failed in a mire of conflict and misunderstandings, one of the lessons learned was the fact that the university research consortium underestimated the complexity of the governance structures of the indigenous Maya peoples. To what extent can reliance be placed upon informal leadership structures or upon the legitimacy of those that claim to represent the communities?⁵⁷ Benefit sharing requires a legitimate authority, which in many instances such as the Chiapas case, proved to be elusive and not willing to engage. In the Chiapas case, the indigenous communities did not have existing governance structures that matched the resources being bargained for, and the benefit sharing project required them to create new structures,

54 Cori Hayden, 'Taking as Giving. Bioscience, Exchange, and the Politics of Benefit Sharing', 37/ 5 *Social Studies of Science* 729 (2007).
55 *Id.*, at 746.

56 M. Mayet, *Biopiracy under Fire: The Pelargonium Patent Hearing* (Johannesburg: African Centre for Biosafety Briefing Paper, 2010) and M. Mayet, *Knowledge Not for Sale: Umckaloabo and the Pelargonium Patent Challenges* (Johannesburg: African Centre for Biosafety Briefing Paper, 2008).

57 L.G. Barrios and J. C. Lucas, 'The Limitations of Good Intent: Problems of Representation and Informed Consent in the Maya ICBG Project in Chiapas, Mexico', in Wynberg, Schroeder and Chennells, note 15 above, at 315.

leading to competition, conflict and influence from third parties.⁵⁸

Fortunately, the San peoples were able to avoid this particular pitfall. They had adopted a single networking and representative structure in 1996, when WIMSA was first formed as a regional networking and representative organisation with the purpose to represent the disparate San groups from Botswana, Namibia and South Africa in matters that affected their common culture and heritage rights.⁵⁹ Whilst the operational governance of these San leadership structures is far from perfect, their efforts to establish a coherent representational structure have proved valuable, enabling them to mandate chosen leaders to articulate and negotiate TK and other rights on behalf of the community.

In relation to the role of leaders, the position of healers and diviners, sometimes known as shamans, within a traditional community, is worthy of mention.⁶⁰ A modern doctor would not, after six years studying medicine at university, claim that the knowledge that he had gleaned belonged in any way to him. For similar reasons, it is regarded as morally dubious for community healers to claim any rights over the knowledge that has been passed on to them for themselves individually, rather than on behalf of the communities they serve. Their knowledge is gleaned from healers and diviners before them, who in turn received it from their own predecessors, and modern healers are expected to do the same. Where benefit-sharing agreements are hastily negotiated by bio-prospectors with complicit individuals or groups of healers, they run the risk of being both unfair and flawed.

Collective rather than private ownership of TK is the common principle shared not only by traditional communities, but confirmed internationally in a series of binding documents. The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) that emerged from the Working Group on Indigenous Populations (WIPO) confirms the

indigenous peoples right to intellectual property relating to TK.⁶¹ In addition, the WIPO working group on Indigenous Knowledge records collective as opposed to individual ownership as being at the core of indigenous culture.⁶² Bio-prospecting and benefit-sharing agreements, or material transfer agreements that have been signed with traditional healers present, according to this principle, can be a significant threat and an injustice to the communities within which those healers acquired their knowledge if the communities are not properly represented. The warning appears to suggest that traditional healers might be tempted to act as if they are the sole representatives of the community regarding the community's TK, or as if they have particular rights in respect of the knowledge, rather than being part of and accountable to the community.

CSIR in South Africa, for example, announced a bio-prospecting agreement with ten traditional healers as part of the bio-prospecting policy.⁶³ This announcement begged the question to what extent these healers were mandated within their traditional community structures. One would assume that whilst bearing in mind Dutfield's warning not to have any fixed assumptions about ownership or authorship of TK in traditional societies,⁶⁴ the traditional healers would be expected to have secured their authority to thus share their TK by some or other effective and legitimate community process. If indeed TK is a form of a common pool resource it should meet the criteria

⁵⁸ *Id.*, at 317.

⁵⁹ See Chennells, Haraseb and Ngakaeaja, note 15 above.

⁶⁰ R. Barsh, 'Indigenous Knowledge and Biodiversity', in D.A. Posey ed, *Cultural and Spiritual Values of Biodiversity* 73 (UNEP: Nairobi, 1999).

⁶¹ United Nations Declaration on the Rights of Indigenous Peoples adopted by UN General Assembly 13 September 2007, Resolution 61/295, available at http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf [hereafter UNDRIP], Article 31 and 32.2.

⁶² WIPO working group on Traditional Knowledge Genetic Resources and Traditional Cultural Expressions/Folklore, Intellectual Property and Traditional Knowledge, Booklet No.2, available at http://www.wipo.int/export/sites/www/freepublications/en/tk/920/wipo_pub_920.pdf.

⁶³ CSIR, Joint media release by the South African San Council and the CSIR, 28 October 2004, available at http://ntww1.csir.co.za/plsql/pt10002/PTL0002_PGE157_MEDIA_REL?MEDIA_RELEASE_NO=7233055. See also Tamar Kahn, Indigenous group to share royalties on anti-obesity drug 23 March 2003, available at <http://www.scidev.net/global/bioprospecting/news/indigenous-group-to-share-royalties-on-antiobesit.html>.

⁶⁴ See Dutfield, note 4 above, at 95.

suggested by Ostrom that there should be clearly defined boundaries, collective rules or arrangements, and self-determination of the collective that is recognised by the 'higher level authorities'.⁶⁵

What the ABS regime has brought about is a new use for TK that previously lacked significant commercial or related value. In effect, a new and valuable resource has been formed. It is not surprising that the indigenous peoples are finding a range of different ways to respond to and deal with this development, one of which is the need to develop the political structure necessary to articulate and negotiate with outside parties, where they do not yet exist. Leadership and governance of the indigenous peoples, whilst an essential component of ABS practice, is not a simple question of establishing the legitimate representative of the TK holding community. Indigenous peoples are responding in a dynamic manner to the new opportunities brought about by the evolving ABS regime, and the crucial issue is the extent to which states provide an enabling legal environment for such responses to result in positive outcomes.

4 TOWARDS NEW LEGAL CONCEPTS

The entire discussion around the determination of a TK community presupposes the existence of TK rights, as set out in the CBD and the Nagoya Protocol and translated into domestic legislation. This begs the question as to what is the nature and form of these TK rights as now governed by the CBD legal paradigm. Generally, the idiom and ethos of ABS in the CBD discourse is one predicated on the international system of intellectual property rights (IPR). For example, Article 16(3) of the CBD states that, 'the Contracting parties, recognising that patents and other intellectual property rights may have an influence on the implementation of this Convention, shall cooperate in this regard...'.⁶⁶

⁶⁵ Ostrom, note 51 above.

⁶⁶ CBD, note 2 above.

Contributions to innovation or knowledge provided by TK communities are acknowledged and protected primarily by Article 8(j), which enjoins states to 'respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities...'.⁶⁷ The attribution of a new form of value to the TK that is facilitated by the CBD regime results from the partial sovereignty, or control, that is attributed by Article 8(j), which is subject to the overall sovereignty granted to the state in accordance with Article 15.⁶⁸ Indigenous and local communities are thus afforded significant, albeit subservient, power to provide or withhold material terms of access and/or consent in respect of resources associated with their TK.⁶⁹ Despite the fact that this was a new form of right granted to the indigenous peoples, namely partial sovereignty over their TK and genetic resources, many indigenous activists objected stridently against the notion that they should have anything less than complete control.⁷⁰

The following decision made by the Conference of the Parties to the CBD in 2000 leaves no room for doubt as to the extent and purpose of the collective rights of the indigenous peoples. It is stated that, 'access to the traditional knowledge, innovations and practices of indigenous and local communities should be subject to prior informed consent or prior informed approval from the holders of such knowledge, innovations and practices'.⁷¹

Articles 6 and 7 of the Nagoya Protocol, the most recent development of the ABS framework of the CBD, set out clear processes for obtaining prior informed consent, including the specific case where TK is accessed from indigenous and local communities, thus cementing an effective veto right in their favour.⁷² Prior informed consent, a term used

⁶⁷ *Id.*, Article 8(j).

⁶⁸ *Id.*, Article 15(5).

⁶⁹ *Id.*, Article 8(j). See also Nagoya Protocol, note 1 above.

⁷⁰ Debra Harry and Le'a Malia Kanehe, 'The BS in Access and Benefit Sharing (ABS): Critical questions for Indigenous Peoples', in Beth Burrows ed, *The Catch: Perspectives in Benefit Sharing* 88 (Washington: Edmonds Institute, 2005).

⁷¹ CBD COP 5, Decision V/16, Article 8(j) and related provisions, May 2000, available at <http://www.cbd.int/decision/cop/default.shtml?id=7158>.

⁷² Nagoya Protocol, note 1 above, Articles 7 and 12.

in ILO Convention 169 as well as the UNDRIP and other instruments relating to mining, logging, damming and forced removals involving indigenous peoples, lies at the heart of what operates to a large degree as a veto right afforded to the indigenous peoples.⁷³ It is suggested that the term 'free' added by the UNDRIP to the term 'prior informed consent' in relation to prohibiting relocation from their lands⁷⁴ or the taking of their TK is largely tautologous, and does not add to the meaning.⁷⁵

As has been described above, the concept of private ownership within indigenous communities is confined largely to personal effects, and justifications of exclusion and privatisation are foreign to the generally collective ethos. Indigenous peoples issued a public statement expressing opposition to the entire system of patenting and commoditisation, stating that such laws were 'against our fundamental values and beliefs regarding the sacredness of life processes, and the reciprocal relationship which we maintain with all creation'.⁷⁶ However, it is not clear to what extent this statement is fully supported by the indigenous peoples. Both Dutfield⁷⁷ and Vermeyley⁷⁸, in an examination of private ownership, have for example warned against generalisations such as the assertion that all property is commonly owned in indigenous communities, so this notion, including the very use of the loaded word 'ownership', should be treated with caution.

Article 5(2) of the Nagoya Protocol refers to 'genetic resources held by indigenous and local communities' (emphasis added), which seems to imply at the very least some form of collective rights, if not ownership *per se*. Article 5 goes on to define how the resources are held, namely 'in accordance with domestic

legislation regarding the established rights of these indigenous and local communities' (emphasis added).⁷⁹ Again the words 'established rights' expressly imply that the TK holders must first apply for and establish some recognised form of registration of their TK rights, presumably to be issued by their government. This provision emerges, in the harsh light of everyday practice, to be largely aspirational. The clause begs two questions, first by whom are these held rights to be *established*, and second what precisely is the *nature* of such rights? Neither of these questions has an answer in the CBD or the South African legislation.

A more optimistic or flexible interpretation of this clause would construe the words 'established rights' as including the recordal of rights established by custom and/or agreement, which is the manner in which the San have proceeded to secure their rights to Hoodia and Sceletium. This would entail the indigenous peoples engaging in dialogue with their government, in which they clearly set out the framework and content of such TK rights. And in this regard, they might choose to frame their rights in their own terms, rather than to use the terminology and meanings contained in the prevailing intellectual property regime. For example, even though IPRs had been secured by the users, namely the patents taken out by CSIR in the Hoodia case and by HGH in the Sceletium case, the San chose in their negotiations to assert rights resulting from their TK, rather than claiming any form of ownership or established IPRs themselves. Similarly, in the Sceletium case the preamble to the agreement described the San rights as dating back for countless millennia and the San as the 'indigenous knowledge holders' and thus holders of certain legal rights related to the medicinal uses of the plant known as *Sceletium tortuosum*, an indigenous biological resource found in South Africa.

These rights, which may be better described as customary legal rights, are determinable and of potential value to the TK community. Indigenous peoples should be expected to ensure that such TK rights are not immorally or illegally claimed by others, and they are increasingly acquiring the capacity to articulate and claim their rights. These

73 It is a matter of debate as to whether this procedural right requiring PIC by indigenous peoples should be termed a 'veto right', or whether it is simply a lesser form of right, namely a procedural right.

74 UNDRIP, note 61 above, Article 10.

75 *Id.*, Article 11(2).

76 V. Tauli-Corpuz, 'Our Right to Remain Separate and Distinct', in Jerry Mander & Victoria Tauli-Corpuz eds, *Paradigm Wars: Indigenous Peoples' Resistance to Globalization* 13 (San Francisco: Sierra Club Books, 1st ed. 2006).

77 See Dutfield, note 5 above at 95.

78 S. Vermeyley, 'Trading Traditional Knowledge: San Perspectives from South Africa, Namibia and Botswana', in Wynberg, Schroeder and Chennells, note 16 at 193.

79 Nagoya Protocol, note 1 above.

rights do not fit comfortably under the aegis of the term ownership, and are thus not comfortably covered by the strict ownership laws that have evolved in the formal systems of the West.

Similarly, if ownership rights in any form were to be granted to a TK community, the erroneous effect would be to purport to afford the community a stronger form of right than the *sui generis* common pool right that existed before. In other words, the unsellable, inalienable TK, which was previously freely shared and not excluded from others, would have suddenly been deemed able to be privatised, commodified, and sold to the highest bidder. Even if certain aspects of TK remained secret, such as spiritual components guarded from outsiders, the ability of previously unenclosed rights to be privatised and sold on as commodities requires careful scrutiny. Community leaders, as custodians of TK passed down to them, are seldom if ever allowed (by their customs and laws) to sell a commodity or resource that was passed down to them, in the form of trusteeship, and which they in turn are entrusted to pass on to succeeding generations. Simply put, a custodian or a trustee is not entitled to sell the rights to which he or she has been entrusted, and can thus not be termed an owner.

As an additional comment regarding the issue of TK ownership, the key issue is thus, who precisely has the right to determine access to the knowledge?

In the terminology used by the Aborigines from Australasia,⁸⁰ the core question asked is who 'speaks for' the TK in question? Traditional owners 'speak for' land that is known to be under their custodianship.⁸¹ As the cases above show, it is seldom that any one grouping has an exclusive body of rights such as are embodied in the term 'ownership', and the reality is that the rights to the TK should be viewed in a more flexible manner, appropriate to the ethos surrounding the rights.

80 J. Altman, 'Benefit Sharing is No Solution to Development: Experiences from Mining on Aboriginal Land in Australia', in Wynberg, Schroeder and Chennells, note 16 above, at 285.

81 T. Rowse, 'Refiguring 'Indigenous Culture'', in J. Altman and M. Hinkson eds, *Culture Crisis: Anthropology and Politics in Aboriginal Australia* (Sydney: UNSW Press, 2010).

Another soft or vulnerable spot in the determination of TK rights is the requirement, as set out in the Nagoya Protocol, that the TK should be associated with genetic resources.⁸² This gives rise to a host of questions such as how closely associated should such knowledge be? Is it sufficiently associated if the TK about the plant was used traditionally for healing of blood and general ailments, but a patent is applied for to heal specific sicknesses with modern Western names?⁸³ And does the existence of broad knowledge regarding the usage of a plant lead to rights by virtue of the TK association with the specific usage? Some plants are commercially utilised for a totally different purpose; for example *Pelargonium*, which is also widely used as a perfume base.⁸⁴

This article argues that the TK rights of communities and consequently the rights to receive benefits from the commercialisation thereof are legitimate and determinable, but are *sui generis* rights, different to and distinct from the Western concept of ownership.⁸⁵ Whilst the CBD acknowledges the rights of Contracting parties to give effect to their own formulation of rights, examples of formulation of such *sui generis* rights outside the frame and terminology of the prevailing international IPR system are few. Furthermore, unlike ownership, which is established in a formal legal system and defended in a court based upon Western laws, the allocation of TK rights might well benefit from the ancient paradigm found in the law of equity, which evolved in early English law as a bastion against perceptions of injustice in the common law.⁸⁶

82 Nagoya Protocol, note 1 above.

83 For example five patents on *Asphelatus linearis* (Rooibos tea) by Nestle included a number of medicinal and related properties. The Berne Declaration and Natural Justice opposed these patents. See Berne Declaration Briefing Paper, 'Dirty Business for Clean Skin: Nestlé's Rooibos Robbery in South Africa', available at http://www.evb.ch/cm_data/Berne20Declaration-Natural20Justice20Briefing20Paper20Rooibos20Robbery202720May202010.pdf.

84 *Pelargonium* is used for geranium oil, widely in demand as a perfume base.

85 C. Correa, *Traditional Knowledge and Intellectual Property: Issues and Options Surrounding the Protection of Traditional Knowledge*, A Discussion Paper (Geneva: Quaker United Nations Office, 2001), available at <http://www.geneva.uno.info/pdf/tkcol3.pdf>.

86 The word equity has ancient roots, with its origin in the Latin word *aequitas* meaning just, impartial or fair.

Equity law has developed new approaches to problems within the formal legal system, for example the apportionment of damages in accordance with the degree or proportion of wrongdoing, and also the provision of novel forms of injunction to ensure justice.⁸⁷ Equity developed in the English common law as a set of legal principles separate from and supplementing the strict rules of the common law, which were then exported in some form to much of the Western world.⁸⁸ In everyday terms, equity is said to 'mitigate the rigor of the common law' and was introduced precisely to deal with the sort of unfairness described earlier, and to introduce fairness into the legal system. According to 'Hanbury's' 'Modern Equity', the origin of equity was said to be 'in justice, beyond human control' and 'older than any of its characteristics'. Whilst an in depth analysis of the law of equity is not required for this discussion, it is synonymous with flexibility, and securing justice as opposed to legality.⁸⁹ In legal systems that follow the English common law tradition, as well as in civil legal systems, the law of equity is thus still very much part of the established legal practice.⁹⁰

A number of maxims or principles of equity have become incorporated in law, including the well-known *audi alterem partem* of procedural law (hear the other side) and *nemo in sua causa iudex* (no one may judge his own case).⁹¹ Further comforting maxims for aggrieved litigants are *ubi ius ibi remedium* (where there is a right, there is a remedy) and 'no man should be enriched to the prejudice of another' (unjust enrichment). What the three case

studies have shown is that each case is different, requiring weighing up of different issues and facts that do not fit comfortably into modern notions of law. It is proposed that discussions on TK rights based upon equity as a legal framework are able to supplement *sui generis* notions of rights, and to assist parties in arriving at fair agreements.

The San discussions with the Nama took place outside notions of law, and in a manner aimed at placing all possible relevant information on the table. Whilst this aspect was not explicit, it is suggested that the ethos and framework that governed the discussions were guided by notions of equity and fairness, rather than a rights discourse. Historical information, myths, beliefs, and perceptions of the two groups were shared on the one hand, together with modern and scientific facts relating to patents, markets and economics on the other. At the end of the discussions, an outcome was reached in the form of a binding agreement, which both parties signed and thus regarded as being fair and equitable.⁹²

Similarly, in the San-Nama negotiations, the word 'ownership' was never an issue. The factors listed above (historical origin, sharing of TK) were discussed together with an acknowledgement of the real contribution made by the Paulshoek and Nourivier communities, and the sum total of the shared facts supported the parties in arriving at a solution that was fair and acceptable to both. Agreement without force or persuasion or undue influence presupposes that the outcome is, in the view of both parties, fair and equitable. Admittedly, if the two parties were to be badly advised, and were encouraged to engage with one another in an adversarial manner, the aforementioned peaceful outcomes would be by no means assured. The above two examples lead to the conclusion not only that principles of equity are useful in the balancing of complex forms of rights, but in addition that such rights can best be realised in discussions that are facilitative and non-adversarial in nature.

Indigenous peoples need to be aware of their legal rights, but the very involvement of lawyers in the

87 The Mareva Injunction, or the Anton Pillar order for discovery, are examples of equitable injunctions.

88 S. Worthington, *Equity* (Oxford: Oxford University Press, 2nd ed. 2006).

89 H.G. Hanbury, *Hanbury and Maudsley's Modern Equity* 11 (London: Stevens and Sons, 1981).

90 For example in America where the federal courts and most state courts have merged law and equity, the substantive distinction between law and equity remains vital, whilst many modern remedies originated in equity law. Following the case of *Willard v Tayloe* in 1869, a leading case on the use of equity to assist the limits of contract law, the court decided that the fashioning of relief to be granted was a matter in the discretion of the court to be decided according to the circumstances. See John P. Dawson, 'Judicial Revision of Frustrated Contracts: The United States' 64 *Boston University Law Review* 1 (1984).

91 L. Baxter, *Administrative Law* (Cape Town: Juta, 2nd ed. 1984).

92 The San Nama Agreement was concluded and signed on 15 July 2009. The document is unpublished and is on file with the author.

process between communities is to tiptoe on perilous quicksand. Legal practitioners trained in the adversarial legal system that supports the players in the individualistic free market are inclined to see the issue as one of a competition to be won, rather than an equitable outcome to be sought. Once an intemperate shot has been fired at the other group, framed as the opponents in a competition, it is far more difficult to frame the matter as a constructive and collaborative problem-solving exercise. It is clear from the positive preambles of the Hoodia and the Sceletium benefit-sharing agreements that these parties had *'found'* one another, and that they were able to negotiate in a manner where fairness, rather than winning, was the ultimate prize.

The above discussion on the legal and extra-legal issues that are brought to bear in an assessment of TK holders leads one to empathise with the task facing stakeholder parties in relation to the CBD. These are the difficulties that seem to have emerged in a similar form in many other countries, causing stumbling blocks on the road to creating a sound and effective benefit-sharing regime. It is suggested that the designated clearinghouse of each state, which is the Department of Environmental Affairs in South Africa, needs to take account of the fact that TK rights held by communities are *sui generis* rights, which are more effectively to be determined within the procedures and idiom constituting equity, rather than of formal law. Where TK communities overlap, such as in the Sceletium case described above, the designated clearinghouse should facilitate the type of discussions that were held between the patent holder, the San and the Nama speaking communities of Paulshoek and Nourivier communities.

Empirical research on procedural justice in practice has supported what is a pervasively innate intuition, namely that the more fair the procedure used to determine outcomes, the more psychologically acceptable the outcomes will be.⁹³ Indeed some theorists claim that fair procedures are more

fundamental than fair outcomes,⁹⁴ namely the material manifestations of how the resources have been distributed between competing recipients.

Africa has an ancient tradition of discussing matters in an open-air forum, known as 'indaba' in the Nguni language, or a 'Kgotla' in the Tswana/Sotho language group. In these forums important issues would be discussed until consensus, or sufficient consensus, was clearly reached. Time frames imposed by traditional communities, who have egalitarian and participative decision-making structures, need to challenge the more rigid time frames preferred by commercial negotiating partners. The result would be a sustainable and equitable agreement.

5

CONCLUDING COMMENT

In the Nagoya Protocol, Article 5 requires national governments to give effect to benefit sharing. However, in order to do so they are required to determine who are the indigenous and local communities that hold knowledge relating to utilisation of genetic resources. Once TK holders have been established with regard to a particular bio-prospecting case, benefits need to be shared in a fair and equitable manner in accordance with their respective 'established' rights. This article has explored some of the difficulties inherent in the apparently simple tasks that make up fair and equitable benefit sharing with the appropriate TK holders.

The question of who is the TK holding community becomes clearer if the entire analysis of rights is done in a fair process and from the perspective of equity. Equity examines all the facts of a case, and apportions weight appropriately across a range of relevant factors. Procedures for such discussions inevitably need to be more measured and less hasty, in order to deal with the diffuse and less hierarchical decision making procedures of indigenous and local

93 R. Folger and J. Greenberg, 'Procedural Justice: An Interpretive Analysis of Personnel Systems', in K. Rowland & G. Ferris eds, *Research in Personnel and Human Resources Management* (Vol. 3) 141, 183 (Greenwich, CT: JAI Press, 1985).

94 L.D. Molm, J.L. Collett and D. Schaefer, 'Conflict and Fairness in Social Exchange' 84 *Social Forces* 2331 (2006).

communities. In South Africa, the San, as acknowledged first comers on the continent, were identified as primary TK holders in the Hoodia and the Sceletium cases; however, in time such priority should not detract from the rights of other communities to put forward their claims as holders of relevant TK. This process has yet to take place within the framework of the domestic legislation, which is less than effective in communicating with and facilitating appropriate processes for the indigenous peoples.

The imaginary example of the sharing of the secret cake recipe was proposed above as a means to examine the flow of TK over time and to emphasise that such sharing is predicated upon reciprocal acknowledgement and relationships between parties. This article proposes that such forms of knowledge, which are shared in particular ways over centuries, constitute *sui generis* legal rights, with significant commercial implications, which are held according to the flexible principles of equity. Equity, derived from *aequitas* or equality in Roman law, is a collection of principles of ancient origin, and designed to bring about idealised conceptions of ideal justice and fairness. It is not necessary to pronounce and debate whether these rights are legally defined as ownership, custodianship or other legal rights, although it is proposed that the consequences in practice are the same.

The veto explicit in the CBD and Nagoya Protocol does in fact provide TK holders with one of the most powerful criteria that distinguishes ownership from weaker forms of use rights, namely the right to say no and thereby prevent use by others. It is suggested that the families A, B and C described in the secret recipe analogy above would, in an equity-framed analysis, and with the aid of a facilitated process, be able to determine a fair apportionment of the consequences of such rights without having to squeeze them into a private property legal paradigm.

Application of the principles of equity would entail assessment of all the complexities discussed above. This includes the nature of the TK, the different forms and discoveries over time, the known history of settlement and of sharing, the period for which the particular community has held and nurtured the knowledge, the current state of the communities including leadership structures, and any other factors

with a bearing upon a fair outcome. The degree to which the TK has become a common pool resource with a discernible boundary and governance system would become apparent, with logical outcomes for those that should benefit from its use. An outcome reached after such a process is likely to be sustainable, as opposed to one following a legal challenge where only the litigants are in court, and where the judge is only in possession of the facts that are placed by the parties before the court.

In summary, the unique form of property rights that subsist in TK held collectively by communities relating to specific plant forms does not lend itself to being dealt with under the intellectual property system. Private ownership, as the most significant characteristic of the IPR system, is a form of enclosure anathema to collective knowledge practices. The law of equity contains the flexibility and the core principles that enable the issue of rights-holders of TK to be interpreted and managed in a manner envisaged by the drafters of the CBD and the Nagoya Protocol. Where governments are able to harness the examples such as provided in the case studies above, and to implement the allocation of benefits based upon equity, the fair benefit sharing aspirations as enshrined and aspired towards in these important legal instruments will become manifest. In the South African context, where these case studies are situated, the government will for example need to establish flexible and justice-seeking processes where competing or overlapping rights of TK holders can be discussed, allocated and determined in accordance with the laws and principles of equity.

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