

SAFEGUARDING INDIGENOUS KNOWLEDGE AND ACCESS TO PLANT RESOURCES THROUGH PARTNERSHIP: A NEW ZEALAND PERSPECTIVE

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The Nagoya Protocol is a recent binding international instrument that articulates the need to recognise the rights of indigenous peoples regarding their biological resources and cultural knowledge and strengthens the mechanisms to do so. New Zealand has not signed this protocol because of the overriding importance of the Treaty of Waitangi in New Zealand's domestic affairs, and the need to ensure that government options are not limited concerning the development of domestic policy on access to biological resources. In particular, policy makers and legislators are waiting for the government response to a 2011 Waitangi Tribunal report (Ko Aotearoa Tēnei) on a far-reaching and complex claim (WAI 262) concerning the place of Māori traditional knowledge, culture and identity in contemporary New Zealand law and government policies and practice. Especially pertinent to this paper is the report's section on Māori rights relating to biological and genetic resources. In accordance with the recommendation within Ko Aotearoa Tēnei, the principle of partnership, built on the explicit Treaty premise of Crown and Māori as formal equals, is presented here as the overarching framework and mechanism by which government agencies and Māori can work together to safeguard such resources. Core concepts and values are elucidated that underpin the Māori relationship to indigenous flora and fauna and are integral to the protection of cultural knowledge of seeds and plants. Examples are given of plant species regarded as taonga (treasures) and how they are conserved, and a case study is presented of institutional stewardship of harakeke (New Zealand flax) weaving varieties. Seed bank facilities are also evaluated regarding their incorporation of Māori values and rights under the Treaty of Waitangi.

Introduction

The last two decades of the 20th century saw increasing global concern about the rapid decline of biological diversity and the implications for human economic and social health. Concurrently, there was a significant shift in public and political cognisance of indigenous communities and their struggles to safeguard both traditional ecological knowledge and valued biological resources.¹ The *UN Convention on Biological Diversity* ('CBD')² was the key political response to arresting species and ecosystem decline and recognising indigenous peoples' rights over resources, since it entered into force in December 1993, there have been a raft of international and national agreements, policies and protocols that enlarge on CBD themes.³

New Zealand has not signed the most recent binding international instrument, the *Nagoya Protocol*,⁴ under which provisions to safeguard indigenous knowledge are explicitly referenced.⁵ The reluctance of New Zealand to sign is largely due to the overriding importance of the *Treaty of Waitangi*⁶ in New Zealand's domestic

¹ See for example: Eugene Linden 'Lost Tribes, Lost Knowledge' *Time* (cover story), 23 September 1991, 50-58; M Gadgil, F Berkes and C Folke 'Indigenous Knowledge for Biodiversity Conservation' (1993) 22 (2-3) *Ambio*, 151-156; Paul Cox 'Will Tribal Knowledge Survive the Millennium' (2000) 287 [7 January] *Science* 44-45, DOI: 10.1126/science.287.5450.44; Erica-Irene Daes 'Discrimination Against Indigenous Peoples. Study on the Protection of the Cultural and Intellectual Property of Indigenous Peoples', UN Economic and Social Council E/CN.4/Sub 2/1993/28, (28 July 1993).

² *Convention on Biological Diversity* 1760 UNTS 79; 31 ILM 818 (1992) ('CBD').

³ Examples relevant to this paper are: Secretariat of the Convention on Biological Diversity, *The Tkarhwaivri Code of Ethical Conduct*, UN Doc UNEP/CBD/COP/10/27 (20 Jan 2011); UN General Assembly, *United Nations Declaration on the Rights of Indigenous Peoples*, resolution / adopted by the General Assembly, GA/RES/61/295 (2 October 2007); Secretariat of the Convention on Biological Diversity (), *Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization* (Montreal: Secretariat of the Convention on Biological Diversity, 2002).

⁴ *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*, UN Doc UNEP/CBD/COP/DEC/X/1 (29 October 2010) ('Nagoya Protocol').

⁵ *Ibid*, arts 7 and 12

⁶ *Treaty of Waitangi* (1840). For an authoritative history of the *Treaty of Waitangi*, see Claudia Orange, *The Treaty of Waitangi* (Bridget Williams Books, revised ed, 2011).



affairs and the need to ensure that government options are not limited in regard to the development of domestic policy on biological resources.

The *Treaty of Waitangi* is the foundation document for New Zealand and was signed in 1840 by representatives of the British Crown and over 500 Māori chiefs. The *Treaty* is integral to the protection of cultural knowledge of and access to indigenous seeds and plants. Broadly, in return for Crown governance over the land, the *Treaty* gave Māori ‘te tino rangatiratanga’ – the exercise of chieftainship, or absolute authority – over their lands and treasured things, and undisturbed possession of their land, forests, and fisheries.

For 140 years after signing, the *Treaty* was effectively ignored as a relevant document in New Zealand life and the Crown largely failed to uphold its obligations, particularly in relation to land rights, despite on-going petitions and court cases on treaty-related grievances. Wider public awareness of Māori grievances grew after the Second World War and, in 1975 the government passed the *Treaty of Waitangi Act*,⁷ which gave statutory recognition to the *Treaty*. The Waitangi Tribunal was formed to consider claims of *Treaty* breaches. The 1985 extension of the Tribunal’s jurisdiction to consider breaches of the *Treaty* since 1840, and subsequent Acts of Parliament acknowledging the principles of the *Treaty*,⁸ led to a sea change in public consciousness of Māori issues and to the way government agencies, both national and local, acknowledge and reconcile Māori interests in their policies and practices.⁹

Undoubtedly the most complex and potentially far-reaching claim (Wai 262) to go before the Waitangi Tribunal concerned Māori rights in respect to mātauranga Māori (Māori knowledge, philosophy and practices), indigenous flora and fauna, and the place of Māori culture and identity in contemporary New Zealand law, government policy and practice. After an inquiry lasting 20 years, the report on the WAI 262 claim was released by the Tribunal in July 2011.¹⁰ Policy makers and legislators, however, are still waiting for the formal government response to the claim’s recommendations and this has affected New Zealand’s stance on international instruments concerning indigenous rights, such as the *Nagoya Protocol*.

The report *Ko Aotearoa Tēnei* elucidates the Māori concepts and values that underpin and are integral to the protection of cultural knowledge of seeds and plants. It also promotes the *Treaty of Waitangi* principle of partnership, built on the explicit *Treaty* premise of Crown and Māori as formal equals, as the way for Crown agencies and Māori to work together to safeguard such resources.

This paper gives a brief overview of relevant aspects of the Wai 262 claim and details the key concepts that define the Māori relationship to indigenous flora and fauna. Events leading to the drafting of the claim are also discussed to demonstrate ways in which awareness of indigenous perspectives can be raised.

The *Treaty* notion of partnership is presented as the overarching framework and mechanism by which New Zealand agencies charged with conserving plants and seeds can ensure proper inclusion of Māori values and rights. This is demonstrated in a case study on institutional stewardship of harakeke (New Zealand flax) weaving cultivars. Seed bank facilities are also evaluated regarding their incorporation of Māori values and rights under the *Treaty of Waitangi*.

Wai 262 claim - background and relevance

The findings presented in *Ko Aotearoa Tēnei*, the Waitangi Tribunal report on the Wai 262 claim, are pertinent to our interests in the issues around protecting cultural knowledge in relation to plant resources.

Wai 262 is commonly referred to as ‘The indigenous flora and fauna claim’, reflecting the claimants initial concerns about the collection and use of native plants for scientific research or commercial use without proper reference to Māori interests. The claim eventually considered much more than biological resources though the findings are thoroughly pertinent to that subject. It is vast in its scope, going deep into mātauranga Māori (the Māori knowledge base), the way Māori view the world, and the prospects for survival of Māori cultural identity in contemporary New Zealand.

⁷ *Treaty of Waitangi Act 1975* No 114 (NZ).

⁸ For example, the *Māori Language Act 1987* (which made Māori an official language), the *Treaty of Waitangi (State Enterprises) Act 1988*, whereby the Tribunal could direct the government to transfer state-owned assets to iwi (tribal entities) as part of claim settlements.

⁹ Claudia Orange, *The Treaty of Waitangi: The Treaty in Daily Life*, Te Ara <<http://www.teara.govt.nz/en/treaty-of-waitangi/page-7>>.

¹⁰ New Zealand, Waitangi Tribunal, ‘Ko Aotearoa Tēnei: A report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity. Te taumata tuarua’ (Waitangi Tribunal Report, 2011) (‘Aotearoa Tēnei’).



A seminal event leading to the drafting of the Wai 262 claim was an international hui (meeting, workshop) on ethnobotany held at Te Rehua Marae, Christchurch in February 1988.¹¹ The hui was organised as part of a Commonwealth Science Council-funded project on biological diversity and genetic resources.¹² The Botany Division, Department of Scientific and Industrial Research (DSIR, since restructured into a series of Crown-owned science institutes) led the development of this project in New Zealand and instigated a study into traditional uses of plants in New Zealand and the Pacific. Hui organisers sought the involvement of Māori and Pacific Island groups with an interest in the cultural use of plants, and the decision was made to hold the hui on a marae (formal Māori meeting place) rather than in an academic setting. Over three days, scientific papers and informal oral presentations were given, a publication on economic native plants was launched,¹³ a dictionary of Māori plant names promoted¹⁴ – all accompanied by feisty debate.

Māori participants raised concerns over the collection of plants, related research and commercial uses, and the use of traditional knowledge without consent, all perceived as breaches of the *Treaty*. During *kōrero* (discussions) and in the recommendations from the hui, many stressed the need for indigenous knowledge to be respected and local protocols to be followed. Māori emphasised the importance of maintaining their role as caretakers of New Zealand native plants, such as retaining the right to harvest medicinal plants and weaving materials from government-protected conservation land without having to seek permission from the Department of Conservation.¹⁵

Three hui participants were among the six who lodged the initial Wai 262 claim in 1991.¹⁶ The claimants stated that ‘the Crown had denied Māori the full exercise of their *tino rangatiratanga*, or “absolute authority” over many aspects of life, but particularly those relating to natural resources’. To properly recognise *tino rangatiratanga*, the claimants specified the following principles:

- A right to development relating to these resources;
- A right to determine intellectual property rights in the knowledge and use of indigenous flora and fauna and the preservation of biodiversity;
- A right to participate in, benefit from, and make decisions about existing and future technological advances relating to the breeding and genetic manipulation of indigenous flora and fauna;
- A right to control and make decisions about propagation, development, transport, study, and sale of indigenous flora and fauna;
- a right to protect, enhance, and transmit cultural, medicinal and spiritual knowledge and concepts relating to indigenous flora and fauna;
- a right to environmental well-being dependent on the nurturing and wise use of indigenous flora and fauna; and
- a right to recognition of the *iwi* interest in the continued existence of indigenous flora and fauna ‘as particular species and as interconnected threads of *te ao turoa*’ (the entirety of the natural world).¹⁷

The Wai 262 claim was comprehensively amended in 1997¹⁸ to take account of proposed intellectual property and free trade legislation, and the term *taonga* (treasures) was explicitly defined to include all the elements of a tribal group’s estate ‘material and non-material, tangible and intangible’.¹⁹

Several key concepts,²⁰ defined in the following paragraphs, are fundamental to understanding Māori perspective and values in relation to the *Treaty* and the claim of sovereignty over natural resources, including plants.

¹¹ W Harris and P Kapoor (eds), *Nga Mahi M(eds), te Wao Nui a Tane: Contributions to an International Workshop on Ethnobotany* (Christchurch, New Zealand, Te Rehua Marae, 22 Rehua Marae, w Z).

¹² Promila Kapoor-Vijay, *Biological Diversity and Genetic Resources* (Commonwealth Secretariat, 1992), DOI: 10.14217/9781848594951-en

¹³ S G Brooker, R C Cambie and R C Cooper, *Economic Native Plants of New Zealand* (Christchurch, New Zealand, Botany Division, DSIR, 1988).

¹⁴ James Beever, *A Dictionary of Māori Plant Names* (Auckland Botanical Society, Bulletin no 16, 1987)

¹⁵ See Summary of recommendations, above n 11, 168-175

¹⁶ Paper 2.314 (Waitangi Tribunal, statement of issues, July 2006), p 1; claim 1.1 ‘*Indigenous Flora and Fauna and Cultural and Intellectual Property Claim*’ (Haana Murray, Hema Nui a Tahwhaki Witana (Del Wihongi) and others, statement of claim, received 9 October 1991). The claim was registered as the 262nd claim on the Waitangi Tribunal’s register in December 1991, hence Wai 262.

¹⁷ Aotearoa Tēnei, above n 10, 2-3.

¹⁸ Waitangi Tribunal Claim 1.1(a) (Hanna Murray, Hema Nui a Tawhaki Witana, and others, amended statement of claim, 10 September 1997).

¹⁹ See Aotearoa Tēnei, above n 10, 4.

²⁰ There are many writings that define and discuss these key Māori concepts and values in relation to biological resources. See, eg, Merata Kawharu, ‘Kaitiakitanga: A Māori Anthropological Perspective of the Māori Socio-Environmental Ethic of



1. Mātauranga Māori

The essence of the Wai 262 claim is mātauranga Māori. This is commonly translated as Māori knowledge, often with an underlying assumption that it means a body of traditional, static information, albeit of cultural value. Mātauranga Māori is deeper and much more dynamic than that. It is the way in which Māori view and know the world. In relation to plants, it includes knowledge of their properties and uses for food, fibre, construction, medicine and ritual; their habitat and ecology; cultivation, harvesting and storing processes; their relationship to other things, both animate (including humans) and inanimate; and the protocols by which humans manage that relationship. It is not so much the *what* of cultural knowledge, but the *how* - the way of knowing and how to respect and maintain that.

2. Whanaungatanga (kinship)

The principle of kinship is the underlying value of mātauranga. All things, alive or dead, animate or inanimate, are inter-related, and have their own living essence or mauri. Everything ultimately descends from Ranginui, the sky father, and Papatūānuku, the earth mother, and relationships are expressed through genealogies or whakapapa. Plants and seeds, for instance, are the direct descendants of Tāne-mahuta (the forest guardian) or his brother Haumia-tiketike (guardian of cultivated plants). The hierarchies of kinship bring both rights and obligations.

3. Kaitiakitanga (guardianship)

Of all the values, this is the most often evoked in policies relating to the natural environment. As with mātauranga, the notion of kaitiakitanga or stewardship can be used in a one-dimensional sense of 'caring for'. It is that, but more profound. What is often missing is the notion of kinship that sits alongside, and gives the reason why it is so crucial. Everything in the natural world has a kaitiaki, a spiritual guardian. In the hierarchy of whakapapa, humans have rights over plants but that brings with it an *obligation to* nurture plants and the environment they are found in and to act towards them with respect and proper procedures. This is particularly so in relation to taonga - treasured things.

As reflected in the Wai 262 claim, Māori have long argued that, since colonisation, mātauranga Māori has been marginalised and mostly ignored, and that Māori lack control and the ability to fulfil kinship obligations to the natural world and to their taonga (treasured) species of flora and fauna within their tribal areas.

Kaitiakitanga and taonga (treasured) plant species

What constitutes a taonga species? Are all plants taonga - treasured things? In the Māori view, while humans have a relationship to all plants, certain species are more highly valued. It is the place of kinship groups - whanau (family), hāpū (subtribe) or iwi (tribe) - who have authority in a region to determine which species have significant cultural value for them.²¹ The whakapapa and associated mātauranga Māori will be known by tribal elders.

If we take the strength of the relationship into account when recognising cultural knowledge regarding plants, then it does not matter that the plants themselves are not native. For instance, a highly-valued food plant for Māori that has a rich traditional heritage is a non-indigenous species - the kūmara (sweet potato, *Ipomoea batatas*). Some critics would say that Māori have no special intellectual property rights to this crop, given its neotropical origins.²² However, there is no doubting the significance of the relationship of kūmara to Māori. In warmer areas, kūmara provided the best and most accessible source of carbohydrate. Its value is reflected in a wealth of stories and proverbs; and rituals and protocols were developed to ensure a successful crop.²³

Resource Management', (2000) 109(4) *The Journal of the Polynesian Society*, 349-370; Garth Harmsworth and Shaun Awatere, 'Indigenous Māori Knowledge and Perspectives of Ecosystems' in J R Dymond (ed) *Ecosystem Services in New Zealand - Conditions and Trends*. (Manaaki Whenua Press, Lincoln, New Zealand, 2013) 274-286; M Marsden, D Palmer and A Goodall 'The Natural World and Natural Resources. Māori Value Systems and Perspectives' (1989) *Resource Management Law Reform* (Working Paper 29, Ministry for the Environment); David Williams, 'Mātauranga Māori and Taonga' (Waitangi Tribunal Publication; 2001); M Roberts, N Waerete, N Minhinick, D Wihongi, 'Kaitiakitanga: Māori Perspectives on Conservation' (1995) 2 *Pacific Conservation Biology*, 7-20; Ko Aotearoa Tēnei, above n 10, 16-17.

²¹ For example: 'Through the Crowns Settlement Offer, the special relationship Ngāi Tahu has with 49 bird species, 54 plant species and 6 marine mammal species was recognised and acknowledged', Ngāi Tahu - the iwi, *Mahinga Kai* <<http://ngaitahu.iwi.nz/ngai-tahu/the-settlement/settlement-offer/cultural-redress/ownership-and-control/mahinga-kai/>>.

²² For example: Jon Stokes 'Kumara Claim Becomes Hot Potato', *The New Zealand Herald* (Auckland), 1 Feb 2007 <http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10421870>.

²³ Elsdon Best, 'The Kumara (*Ipomoea batatas*) or Sweet Potato and its Cultivation' in Māori Agriculture (*Dominion Museum Bulletin* 9, 1925)



The sweet potato was brought to New Zealand by Polynesian settlers, but new horticultural techniques were required to grow it successfully in temperate conditions. Arguably the first seed banks in New Zealand were the sunken storage pits developed by Māori to store kūmara seed tubers over the winter in the right degree of humidity and warmth to ensure their viability for spring planting.²⁴

With the introduction of the potato after European arrival, Māori stopped cultivating many of the old kūmara strains that were harder to grow and they were mostly lost. In the early 1950s, researcher Douglas Yen collected all the ancient kūmara varieties he could find in northern New Zealand with the aim of improving commercial strains by hybridization with forms long adapted to local conditions.²⁵ Yen eventually placed the material in a seedbank in Tsukuba, Japan, because New Zealand did not have a suitable facility.²⁶ After the 1988 ethnobotanical hui, Māori sought to have these early kūmara varieties returned to New Zealand. Elders journeyed to Japan to collect the kūmara, and they were brought back with due protocol.²⁷ The tubers were placed into quarantine in a government science facility and cleaned of viruses before being released to Māori growers for distribution.

The early potato (*Solanum tuberosum*) varieties are also valued by Māori. Although some traditions assert a pre-European introduction, the evidence points to potatoes being introduced during Cook's voyages in the late 1700s. The crop had a profound effect on Māori subsistence economy, providing a ready source of carbohydrate, and easily grown and stored even in colder parts of New Zealand.²⁸

These early introduced potatoes are of irregular shape and size, and have a distinctive taste and appearance compared with many modern, commercial varieties. They are kept in cultivation by home gardeners and groups such as Tāhuri Whenua (National Māori Vegetable Growers Collective) who encourage production through their networks.²⁹

Harakeke: A case study in institutional stewardship

Of the taonga plant species, indigenous harakeke (New Zealand flax, *Phormium tenax*) holds an esteemed position. In early Māori subsistence economy, the plaited leaves and extracted fibre were used for garments, containers (in the absence of pottery), mats, cordage – including fishing and hunting gear – and medicines. In recent decades, there has been a revitalisation of traditional and contemporary arts and crafts using harakeke and other weaving plants, and the place of harakeke as a highly valued plant remains.³⁰

Between and among harakeke populations, leaf characteristics can vary considerably. In many areas, Māori took vegetative divisions or 'fans' from strains with particular qualities – such as strength, pliability for plaiting, fibre quantity and ease of extraction – and deliberately cultivated them. Growing a new bush from a fan ensured the same qualities as the parent plant; harakeke preferentially outcrosses and does not come 'true' from seed. Further, the time to maturity and usability from sowing seed is around eight years rather than four with vegetative reproduction.³¹

Individual weavers and families have always kept their own special plants. However, in the post-Second World War period, when young Māori migrated from rural areas into the cities for work, the interest in and use of harakeke for weaving declined. The resource diminished also, whether through land modification or family clearing Nana's old, unused bushes.

During that time, and before the weaving renaissance in recent decades, Rene Orchiston from Gisborne grew concerned at the poor quality of the harakeke that her weaving friends were using. From her reading, Rene knew that good quality varieties existed and travelled around the North Island to source them, swapping fruit from the family orchard for a fan of a special plant. Importantly, she recorded the Māori name of the variety

²⁴ J Davidson, B F Leach, M Burtenshaw and G Harris, 'Subterranean Storage Pits for Kūmara (Sweet Potato, *Ipomoea Batatas* L Lam): Ethnographic, Archaeological and Experimental Research in New Zealand' (2007) *New Zealand Journal of Archaeology*, 5-49.

²⁵ D E Yen, *The Sweet Potato and Oceania: An Essay in Ethnobotany* (Bernice P Bishop Museum, Bulletin 236, 1974).

²⁶ 'The Yen Collection, or How the Kumara Cultivars Got to Japan', *NZ Listener*, 9 April 1988, 9.

²⁷ Gordon Campbell, 'The Kumara Come Back', *NZ Listener*, 26 November 1988, 15.

²⁸ Graham Harris, *Poi Niha 'Ngā Riwai Māori - Māori Potatoes'* (Working Paper 2/99, The Open Polytechnic of New Zealand, 1999).

²⁹ *Virus-Free Taewa Project* (2015) Thuriwhenua <<http://www.tahuriwhenua.org.nz/new-page222>>.

³⁰ Mick Pendergrast. *Te aho tapu. The Sacred Thread* (Reed Methuan, Auckland, 1987); Miriama Evans and Ranui Ngarimu, *The Art of Māori Weaving* (Huia Publishers, Wellington, 2005); Cilla Wehi 'Biological Flora of New Zealand 10. *Phormium tenax*, Harakeke, New Zealand Flax', (2007) 45 *New Zealand Journal of Botany* 521-544, DOI: 10.1080/00288250709509737.

³¹ Sue Scheele 'Harakeke and Wharariki' <<http://www.landcareresearch.co.nz/science/plants-animals-fungi/plants/ethnobotany/weaving-plants/information-sheets/harakeke-and-wharariki>>.



where possible. She grew the harakeke at her property, and documented as much information as she could on the particular qualities of the plants, often from her own experimentation.³²

By the late 1980s, Rene was looking for a new home for the 50 varieties she had. Her preference was an institution where the harakeke could be maintained long-term, even if personnel changed. This was the period of the BDGR programme that resulted in the ethnobotanical hui referred to earlier. There was interest in national science circles in indigenous and 'under-exploited plants' and the collection found a home in the DSIR, with plantings at both Havelock North in Hawkes Bay and at Lincoln, near Christchurch. Since a restructure of the science sector in the early 1990s, the responsibility for the collection now lies with Landcare Research, a Crown-owned science institute.

Research was always part of the plan for the Orchiston Collection, whether on traditional or new uses of harakeke. However, the Collection was obtained during that period when government agencies began to acknowledge the 'principles' of the *Treaty* in their policies. A government research institute could no longer just 'have' a collection of taonga species to work on without accommodation of the rights and perspectives of Māori.

There were no rules or official protocols in place to regulate or describe exactly how the relationship should be managed. Policies referred to 'following the principles' of the *Treaty*, without specific direction.³³ This soft approach has an advantage. An agency can develop *sui generis* responses appropriate to the circumstances.

With the Orchiston Collection, two main approaches developed. The first resolution was that, once mature, the plants should be divided and fans sent *gratis* on request to weavers or community groups. The aim was to help build the availability of and access to quality weaving resources throughout New Zealand. Secondly, research relating to the plants needed to have the full support and involvement of Māori. As part of the institute's kaitiaki (guardian) obligations, it acts as 'gate-keepers' to requests for access to the harakeke collection from other research bodies, local authorities, or any agencies wishing to use the plants for their projects. As a first principle, we do not allow the commercial use of this taonga species; any change would need to have the agreement of Māori.

The issue of *who* has those rights is one of the challenges when considering a plant that is grown and used nationwide. Rights to individual varieties are not clear-cut, because favoured plants were exchanged across districts and even the same genotype could acquire different names.

Following a meeting with respected weavers from different tribal groups, a MOU setting out the parameters for research was signed with a pan-iwi organisation, the national association of Māori weavers.³⁴ In following the principle of partnership, a subsequent research programme to evaluate the properties of harakeke cultivars grown in different environments was conceived and carried out jointly. Learning was two-way. Science staff grew their awareness of technical aspects of weaving; weavers developed an understanding of scientific methods and why they are used.³⁵

Shepherd et al refer to the issue of unintended consequence and the problem of something being documented that then becomes rigid.³⁶ We acknowledge this happening to a degree with the documentation around the Orchiston Collection. On the one hand, publishing names, descriptions and attributes of the weaving varieties held within the Collection has been welcomed as a valuable resource by individual weavers and wananga (tertiary educational institutes) where weaving is taught. But it has also led to the Orchiston Collection being seen as the 'standard', and a perception among some that all 'good' weaving flaxes have a name and can be readily identified, which is not so. There can be confusion between names and descriptions recorded in earlier literature not aligning with the contemporary descriptions recorded by Rene Orchiston, or weavers being familiar with a named variety in their own region that has different qualities to its namesake in the Orchiston Collection.

³² Sue Scheele, *Harakeke. The Rene Orchiston Collection* (Manaaki Whenua Press, Lincoln, 2005).

³³ *Guiding philosophy*, Landcare Research <<http://www.landcareresearch.co.nz/about/about-landcare/principles/guiding-philosophy>>.

³⁴ Originally, Aotearoa Moananui a Kiwa Weavers (to embrace Pacific Island weavers resident in NZ); this changed in 1995 to Te Roopu Raranga Whatu o Aotearoa (focus changed to Māori weavers).

³⁵ Several scientific papers were produced as well as a regular newsletter. See 'Review of harakeke evaluation trial 1994-2002' (2004) 13 *He Kōrero Kōrari*.

³⁶ Mark Shepherd, Mark Perry and Paul Martin 'What do You Really Need to Know? An Overview of the Challenges Associated with the Management of Aboriginal and Torres Strait Islander Knowledge by Seed Bank Institutions' (CRC-REP Working Paper CW018, Ninti One Limited, 2014).



A database on cultural plant uses was developed at the same time as the harakeke collection, initially as an institutional resource (being pre-Internet days), but later made publically available online.³⁷ After discussion with Māori staff and external contacts, a decision was made early on that the information recorded in the infobase should already be in the public arena, to ensure the protection of confidential or tapu knowledge. There is a delicate line between protecting mātauranga Māori yet ensuring the general public can access information that acknowledges and celebrates the richness of Māori culture and its contribution to people's understanding of the natural world.

The question of funding is important in considering institutional responsibilities to safeguarding plants, seeds and associated knowledge. In the early 1990s, a group of institutional databases and collections were nominated as 'Nationally Significant' by the government science funding agency, ensuring, it seemed, long term funding of their maintenance. The National New Zealand Flax Collection (which includes the Orchiston Collection) and the database on cultural plant use were given this status. This funding is under review and it is possible that not all collections will continue to be funded by government. That such policies can and do change over time is a reminder that there is still an element of risk involved in having institutions responsible for culturally valued plant and seed collections. In a New Zealand context, it can be argued that the Crown has a responsibility as a *Treaty* partner to provide the resources and funding to maintain all collections relating to native biota.

On the other hand, by assessing applicants on whether their project includes and/or benefits Māori, a funding criteria could help foster links with Māori and bring about partnerships. Such assessment criteria have become commonly included in the New Zealand government science investment process.

Seedbanks in New Zealand

New Zealand's economy is reliant on the agricultural, horticultural, cropping and forestry industries, which, in turn, are dependent on introduced plant species. Each of these sectors has established collections of genetic resources, some as seed collections, others as living populations. The principle seed bank facility in New Zealand is the Margot Forde Germplasm Centre in Palmerston North which concentrates mainly on exotic grassland plants for conservation and breeding. The collection reflects the vital importance of pasture plants to both New Zealand and the global economy.³⁸ Cultural knowledge is not a focus within its operations.

New Zealand's indigenous flora comprises about 2400 vascular plant species (in contrast to Australia's 20,000 vascular plants). Since 2007, the Margot Forde Centre has hosted a small seed bank of endangered native plant species on behalf of the NZ Plant Conservation Network, a non-governmental organisation.³⁹ The New Zealand Indigenous Flora Seed Bank (NZIFSB) is part of the Millennium Seed Bank Partnership, and follows its cooperative protocols. As with most initiatives regarding indigenous resources, there is an explicit understanding that Māori have a special role in the activities of the NZIFSB, with a key accountability for the Coordinator to 'develop an environment which gives effect to the obligations of the Treaty of Waitangi'.⁴⁰ Thus the principle of partnership guides this small-scale operation.

Representatives from collaborating agencies (NZPCN, crown science institutes AgResearch and Landcare Research, Massey University and the Department of Conservation) and an iwi representative determine which species have priority for collecting. The iwi Ngati Kuri officially deposited the first seed, an endangered coastal herb growing on coastal dunes in their area of Northland.⁴¹ Iwi representatives are encouraged to be part of the volunteer seed collecting network and training is given. Some primary cultural knowledge is captured on the field notes that accompany each collection: the Māori name(s) and category of use of plant. Seed is not available for commercial use, but for reintroduction where species have been lost in the wild or for research projects that help with conservation.⁴²

The rare and threatened species that biologists give priority for protection are not necessarily the species that Māori would prioritise, though one could make the general statement that Māori share a concern to protect all biodiversity and the natural environment. For iwi and hāpū, the issue is not so much one of ex-situ

³⁷ Landcare Research, *Ng14/EP Working Paper*, Māori Plant Use <<http://maoriplantuse.landcareresearch.co.nz/>>.

³⁸ W M Williams, 'The Key Roles of Seed Banks in Plant Biodiversity Management in New Zealand' (2010) *Agronomy Society of New Zealand Special Publication 13/Grassland Research and Practice Series 14*, 5-11.

³⁹ New Zealand Indigenous Flora Seed Bank, <http://www.nzpcn.org.nz/page.aspx?conservation_seedbank>.

⁴⁰ NZIFSB Seed Bank Coordinator Position Description <<http://scholarshipdb.net/scholarships-in-New-Zealand/Seed-Bank-Coordinator-A251-13-Sf-Massey-University=NL97lygK4xGUEQAlkGUTnw.html>>.

⁴¹ 'Seed Bank for Endangered Species Opens' (AgResearch Press Release) 16 August 2007 <<http://www.scoop.co.nz/stories/BU0708/S00322.htm>>.

⁴² J Schnell pers comm, 4 June 2014).



conservation of valued plants, but of in-situ access to resources, such as weaving materials and medicinal plants.

Nonetheless, the first collection project for the NZIFSB was the family Myrtaceae, which includes pōhutukawa (*Metrosideros excelsa*) and mānuka (*Leptospermum scoparium*), among the taonga species specifically referred to in the Wai 262 claim. The plants are not endangered in themselves, but are at risk from the fungus Myrtle Rust, currently established in Australia and New Caledonia. This disease would impact both the cultural and economic value of the plants for Māori.⁴³

Permission to collect seed throughout the New Zealand conservation estate (about one-third of the country) is managed by the Department of Conservation under the *Conservation Act 1987*. In 'giving effect to the Treaty of Waitangi' the Department has negotiated rights with every iwi in the country. Some institutional collecting can take place under a global permit; in other areas, collectors must get approval directly from the local iwi.

Further, the Allan Herbarium at Lincoln has acted as 'gatekeeper' when a foreign institution collected many more plant samples than allowed under their Department of Conservation permit and attempted to have them processed through the Herbarium. The plants were confiscated.

Other issues

There is still vulnerability for iwi regarding their rights over indigenous flora because New Zealand lacks a national framework and national legislation for managing bioprospecting or biodiscovery. Again, iwi rely on the moral and ethical force of the *Treaty of Waitangi* being acknowledged and reflected in institutional policy and protocols. Larger companies engaged in biodiscovery initiatives will go through institutions in their search for useful biota because of the need for correct identification. Agreements can have positive benefits through mutually agreed terms. In a recent example managed by a Crown research agency, members of a local hāpū were trained in plant collection, got ecological information from the study to help with their forest management issues, and were assured of royalties should commercial products ensue.⁴⁴

Sometimes, even with good will, it can be difficult to assess who the rightful owners of indigenous knowledge are and how to collect and distribute benefits. A European nursery approached Landcare Research wanting to sell an unusual traditional cabbage tree (*Cordyline*) cultivar, tī tawhiti, recently 'rediscovered' by botanical researchers, along with the story of its use as a food plant.⁴⁵ However, Māori knowledge of this particular cultivar had effectively been lost and it was impossible to determine who the 'owners' were. Nor was there a national Māori agency with the mechanism to collect any (small) royalty or determine where funds should go. The proposal did not go ahead, thus denying an opportunity for celebrating Māori culture abroad as well as receiving any commercial benefit.

However, one pathway is getting more established that could help in such circumstances and lead to better recognition of cultural knowledge and rights to plants and seeds. Through the Waitangi Tribunal process, increasing numbers of iwi have settled claims with the Crown, and received monetary and (sometimes) land compensation. This in turn means that iwi and hāpū have better resources to establish formal governance or management bodies through which external agencies can communicate.

Over the last three decades, the values of mātauranga Māori and kaitiakitanga have been increasingly alluded to in government and institutional policies, with wording varying from 'taking account of' or 'consider' to the stronger 'give effect to'.⁴⁶ The degree to which agencies incorporate and realise Māori values differs markedly. But there is no doubt that the overarching principle of partnership is more readily acknowledged, and agencies are actively seeking ways to make their relationship with Māori work to mutual advantage.

⁴³ Ross Beever et al, 'Native Flora Biosecurity Impact Assessment' (Landcare Research Contract Report LC0607/196, 2007).

⁴⁴ Confidential contract between Landcare Research, an overseas company seeking new plant products, and the hāpū with mana whenua (authority) over the land where collecting was to take place.

⁴⁵ W Harris and P B Heenan, 'Cordyline "Ti tawhiti" and its Relationship to Cordyline "Thomas Kirk"' (1991) 2(2) *Horticulture in New Zealand* 2-5.

⁴⁶ For eg, the *Conservation Act 1987* No 65 wording in pt 1 (4) reads: "This Act shall so be interpreted and administered as to give effect to the principles of the Treaty of Waitangi"; *Resource Management Act 1991* No 69, wording in pt 2 (8) reads: "In achieving the purpose of this Act, all persons ... shall take into account the principles of the Treaty of Waitangi"; Ministry for the Environment. *Natural Resources Framework: Guidance for Users*. (Ministry for the Environment, Wellington, 2013) 5 "The framework supports kaitiakitanga by ensuring the Treaty of Waitangi context, and iwi and Māori rights and interests are considered and responded to by NRS agencies upfront and throughout the lifecycle of a project. This is important as NRS agencies, as partners in the Treaty of Waitangi relationship, have a responsibility to support iwi and Māori in performing their kaitiakitanga functions."



Conclusion

Ko Aotearoa Tēnei, the report of the Waitangi Tribunal on claim Wai 262, elucidates the Māori concepts and values that are integral to the protection of cultural knowledge of seeds and plants. It also promotes the *Treaty of Waitangi* principle of partnership, built on the explicit *Treaty* premise of Crown and Māori as formal equals. As demonstrated in the case study on institutional stewardship of harakeke, partnership is the overarching framework and mechanism by which agencies charged with conserving plants and seeds can ensure proper inclusion of Māori values and rights. The challenge is for agencies to recognise this and work together with Māori on capacity building and the development of mutually beneficial research, policies and practices.

