

# From Principle to Practice: Indigenous Governance, Genetic Resources, Traditional Knowledge and Intellectual Property in Real Commercial Contexts

## MANU CADDIE

Managing Director, Hikurangi Bioactives Limited Partnership

Managing Director, IO Ltd

Adjunct Research Fellow, Te Kotahi Research Institute,  
University of Waikato, Aotearoa New Zealand

Adjunct Research Fellow, National Centre for Naturopathic  
Medicine, Southern Cross University, Australia

Steering Committee Member, Multilateral Mechanism to  
address the fair and equitable sharing of benefits derived from  
the utilization of genetic resources and the Cali Fund, United  
Nations Convention on Biological Diversity



1.

## KNOWLEDGE



TK stratification,  
including DSI as TK  
owned by the organism

2.

## PROTECTION



Protection for TK, GR and  
Indigenous Rights persists  
across IP life-cycle

3.

## AUTHORITY

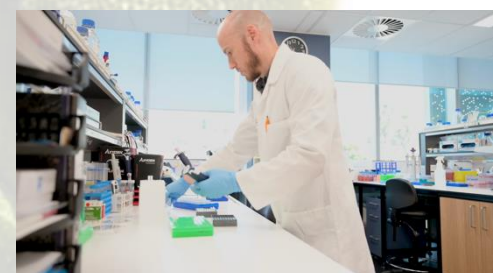


Distributed  
Indigenous Authority  
& Decision-Making



# 1. KNOWLEDGE

- What Traditional Knowledge is sacred and not to be shared publicly?
- What Traditional Knowledge can be shared but connection also retained?
- What Traditional Knowledge & Derived Knowledge can be relinquished?
- What “Traditional Knowledge” belongs to the organism and its ecosystem rather than to humans?



# Glossary

<b>kaupapa</b>	project
<b>taonga</b>	indigenous organism
<b>ngāhere</b>	forest
<b>kaitiaki</b>	guardians
<b><i>Te Kawerau-ā-Maki</i></b>	Māori tribe
<b><i>Ngāti Hinerangi</i></b>	Māori tribe
<b><i>Ngāti Hauā</i></b>	Māori tribe
<b><i>wairuakohu</i></b>	name of the organism
<b>tuakana</b>	ancestor / older relative
<b>tamariki</b>	offspring / children

<b><i>Tāne</i></b>	deity of the forests
<b>moana</b>	oceans
<b><i>Aotearoa</i></b>	original name for New Zealand
<b>rohe</b>	tribal estate
<b>mātauranga</b>	traditional knowledge systems
<b>iwi</b>	tribe
<b><i>Taiao</i></b>	Nature
<b>tangata whenua</b>	people of the land (Māori)
<b>whānau</b>	families
<b>kia ora</b>	warm greetings and thanks

# Glossaire

<b>kaupapa</b>	projet
<b>taonga</b>	organisme indigène
<b>ngāhere</b>	forêt
<b>kaitiaki</b>	gardiens
<b><i>Te Kawerau-ā-Maki</i></b>	Māorie tribu
<b><i>Ngāti Hinerangi</i></b>	Māorie tribu
<b><i>Ngāti Hauā</i></b>	Māorie tribu
<b><i>wairuakohu</i></b>	nom de l'organisme
<b>tuakana</b>	ancêtre / parent plus âgé
<b>tamariki</b>	descendance / enfants

<b><i>Tāne</i></b>	divinité des forêts
<b>moana</b>	océans
<b><i>Aotearoa</i></b>	nom originel de la Nouvelle-Zélande
<b>rohe</b>	domaine tribal
<b>mātauranga</b>	systèmes de connaissances traditionnelles
<b>iwi</b>	tribu
<b><i>Taiao</i></b>	Nature
<b>tangata whenua</b>	peuple de la terre (Māorie)
<b>whānau</b>	families
<b>kia ora</b>	salutations chaleureuses

# Glosario

<b>kaupapa</b>	proyecto
<b>taonga</b>	organismo indígena
<b>ngāhere</b>	bosque
<b>kaitiaki</b>	guardianes
<b><i>Te Kawerau-ā-Maki</i></b>	tribu Maorí
<b><i>Ngāti Hinerangi</i></b>	tribu Maorí
<b><i>Ngāti Hauā</i></b>	tribu Maorí
<b><i>wairuakohu</i></b>	nombre del organism
<b>tuakana</b>	ancestro / pariente mayor
<b>tamariki</b>	descendencia / hijos

<b><i>Tāne</i></b>	deidad de los bosques
<b>moana</b>	océanos
<b><i>Aotearoa</i></b>	nombre original de Nueva Zelanda
<b>rohe</b>	patrimonio tribal
<b>mātauranga</b>	sistemas de conocimiento tradicional
<b>iwi</b>	tribu
<b><i>Taiao</i></b>	Naturaleza
<b>tangata whenua</b>	Gente de la tierra (Maoríes)
<b>whānau</b>	familias
<b>kia ora</b>	saludos cordiales



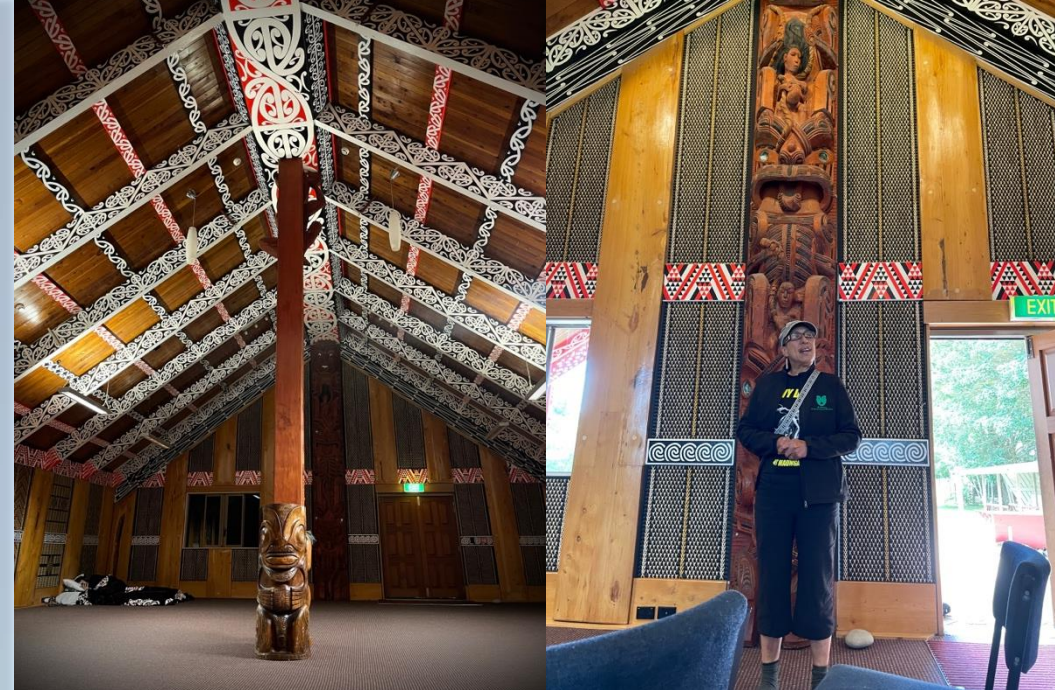
## Traditional Cultural Expressions as Knowledge Systems

TCEs are not only cultural artefacts. They are knowledge systems encoded in cultural form.

*Examples:*

- species names that encode ecological characteristics
- stories that describe relationships between organisms
- carvings, weaving patterns, designs and symbols linked to specific species and ecosystems
- ceremonies and harvesting rituals that encode sustainability practices
- place names that identify habitats and ecological functions

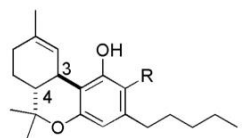
**Implication for policy:** Scientific research often begins with knowledge embedded in TCE, even when this origin is not formally recognised.



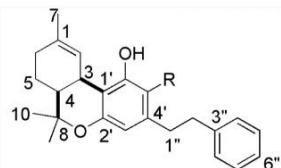
# Wairuakohu



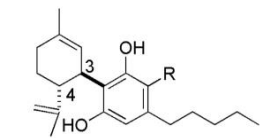
## Indigenous Cannabinoids



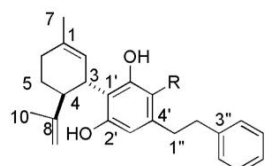
THC



PET -Perrottetinene, (2002)

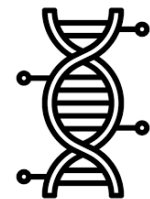
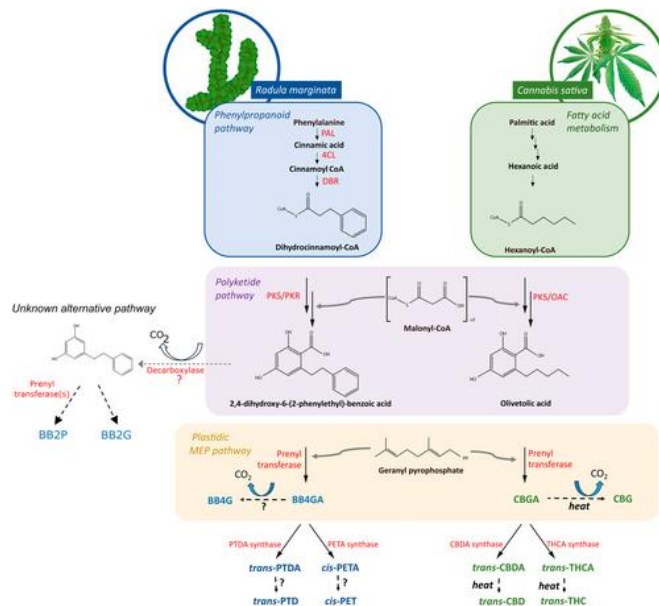


CBD



PTD -Perrottetinene diol, (2022)

## Enzymatic Pathways



Synthetic Genes



Production Systems & Plant Transformation



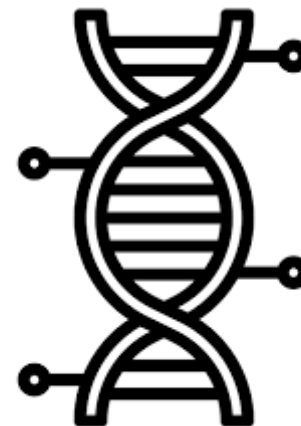
Animal Studies & Toxicology



Epilepsy / MS / Parkinson's

# Principles

- **Taonga (the organism/GR) and Te Taiao (Nature) have rights – including to information derived from GR**
- **Kaitiaki (Indigenous Peoples) have rights and responsibilities based on their relationship with the taonga and associated mātauranga (TK)**
- **Utilisation arrangements need to protect mātauranga and equitably benefit taonga, taiao & kaitiaki**



# Three Interconnected Domains of Indigenous Knowledge Systems

DOMAIN	EXAMPLE	GOVERNANCE CHALLENGE
<b>Genetic Resources</b>	plants, fungi, microbes	access & benefit sharing
<b>Traditional Knowledge</b>	medicinal uses, harvesting knowledge	knowledge governance
<b>Traditional Cultural Expressions</b>	language, stories, art, ceremony	cultural rights & attribution

Indigenous knowledge systems integrate GR, TK and TCE simultaneously, but international legal frameworks treat them as separate policy domains.

Effective governance must address all three together.



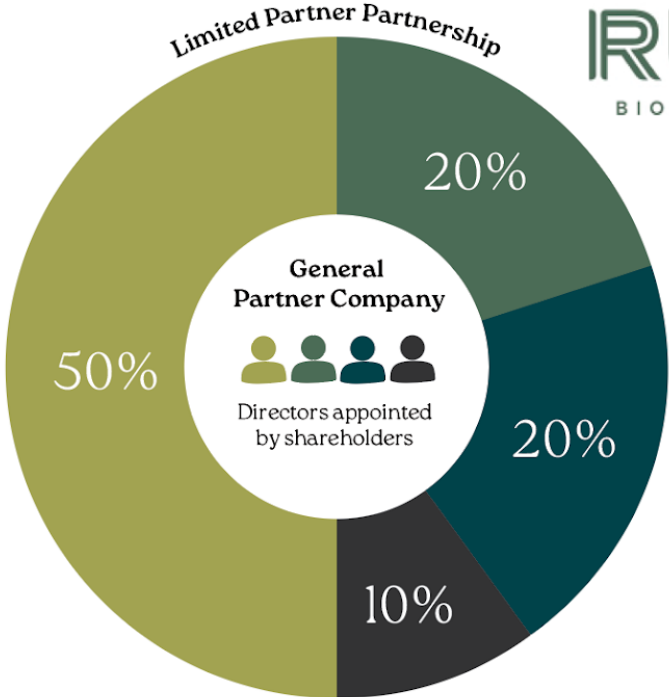
## TAONGA (GR) LEGAL ENTITY



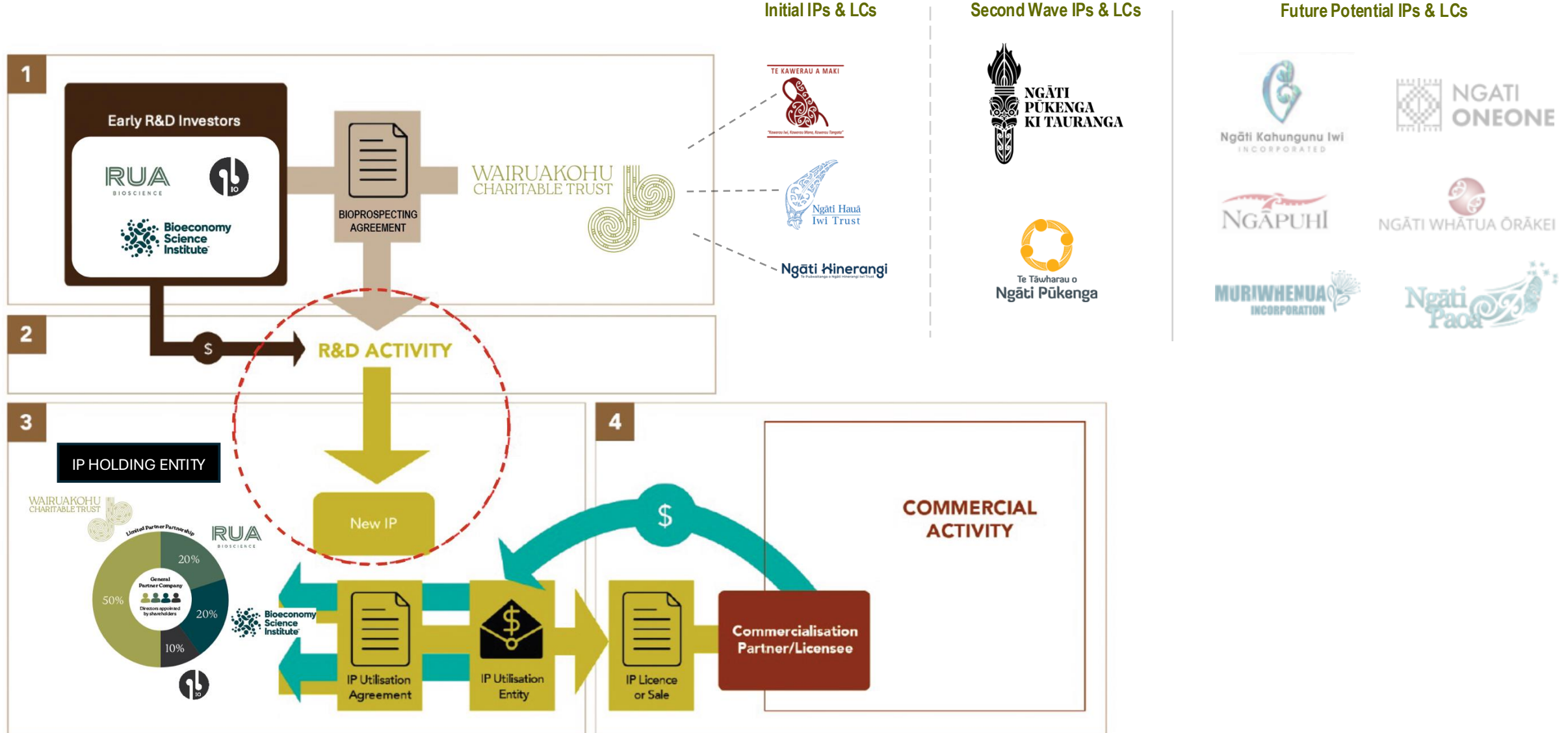
*“To preserve, protect and nurture the taonga, Papatūānuku and the environment for their benefit and for the benefit of tangata whenua, iwi and hapū”*



# IP HOLDING ENTITY



# FPIC/ABS/MAT Commercial Structure





2.

## PROTECTION

Protection for TK, TCEs, GR and Indigenous Rights and interests persists across IP life-cycle



# Cultural Misappropriation Risks

Traditional Cultural Expressions may influence research and commercialisation through:

- indigenous species names used in branding
- cultural narratives inspiring product development
- Indigenous art or symbols used in marketing
- cultural stories referenced in product narratives
- Indigenous language incorporated into trademarks

Without governance mechanisms, this can result in:

- cultural appropriation
- loss of attribution
- misrepresentation of Indigenous knowledge systems

**Governance challenge:** Benefit sharing mechanisms typically address GR and TK, but rarely recognise TCE contributions.



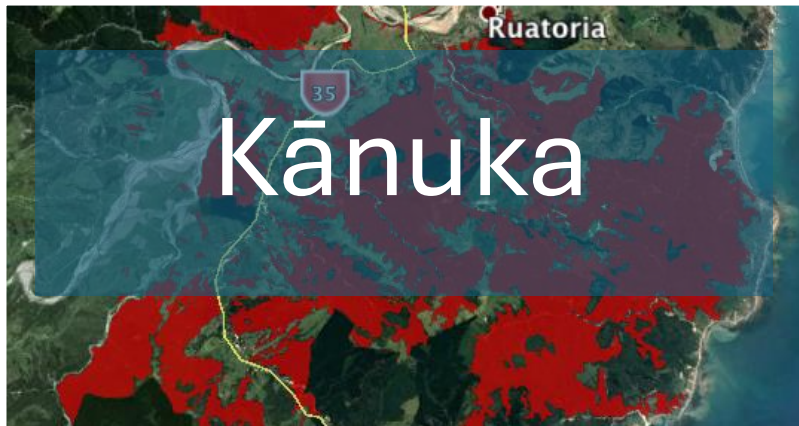
## New Zealand loses fight with Australia over mānuka honey trademark

Intellectual Property Office rules that New Zealand beekeepers' attempt to stop Australian producers using the name did not meet necessary requirements



**From Ancient Treasure to Modern Marvel**  
The Māori Origins of Mānuka







Medical  
Research  
Institute of  
New Zealand  
Rangahautia  
Te Ora



2.2. Control: Continuous variables

Variable	Mean (SD)	Median (IQR)	Min to Max
Age (years) N=39	30.8 (8.7)	30 (23 to 37)	18 to 51
Derm dryness V1 N=39	0.6 (0.6)	1 (0 to 1)	0 to 2
Derm dryness V2 N=25	0.7 (0.7)	1 (0 to 1)	0 to 2
Derm leathery V1 N=39	1.3 (0.8)	1 (1 to 2)	0 to 3
Derm leathery V2 N=25	1.1 (0.7)	1 (1 to 2)	0 to 2
Derm oozing V1 N=39	0.4 (0.5)	0 (0 to 1)	0 to 1
Derm oozing V2 N=25	0.4 (0.5)	0 (0 to 1)	0 to 1
Derm redness V1 N=39	1.6 (0.6)	2 (1 to 2)	1 to 3
Derm redness V2 N=25	1.2 (0.6)	1 (1 to 2)	0 to 2
Derm scratched V1 N=39	0.6 (0.7)	1 (0 to 1)	0 to 2
Derm scratched V2 N=25	0.5 (0.7)	0 (0 to 1)	0 to 2
Derm swelling V1 N=39	1.1 (0.7)	1 (1 to 2)	0 to 2
Derm swelling V2 N=25	0.7 (0.8)	1 (0 to 1)	0 to 2
DLQI V1 N=39	11.4 (5.5)	11 (7 to 14)	2 to 25
DLQI V2 N=35	5.5 (4.5)	5 (2 to 7)	0 to 22
Pharm dryness V1 N=39	1.8 (0.9)	2 (1 to 2)	0 to 3
Pharm dryness V2 N=28	1.3 (0.9)	1 (1 to 2)	0 to 3
Pharm leathery V1 N=39	1.5 (0.6)	1 (1 to 2)	1 to 3
Pharm leathery V2 N=28	1.3 (0.7)	1 (1 to 1.5)	0 to 3
Pharm oozing V1 N=39	0.8 (0.8)	1 (0 to 1)	0 to 3
Pharm oozing V2 N=28	0.3 (0.6)	0 (0 to 0)	0 to 2
Pharm redness V1 N=39	1.5 (0.6)	2 (1 to 2)	0 to 2
Pharm redness V2 N=28	1.3 (0.8)	1 (1 to 2)	0 to 3
Pharm scratched V1 N=39	1.2 (0.9)	1 (0 to 2)	0 to 3
Pharm scratched V2 N=28	1 (0.8)	1 (0 to 1.5)	0 to 3
Pharm swelling V1 N=39	0.8 (0.7)	1 (0 to 1)	0 to 2
Pharm swelling V2 N=28	0.8 (0.8)	1 (0 to 1.5)	0 to 2
POEM V1 N=39	18.7 (4.5)	19 (17 to 23)	8 to 24
POEM V2 N=35	9.8 (6.5)	9 (3 to 15)	0 to 23
POEM Week 1 <sup>a</sup>	9.8 (6.5)	13 (8 to 18)	1 to 22
POEM Week 2 <sup>b</sup>	13 (6 to 17)	13 (6 to 17)	2 to 23
POEM Week 3 <sup>c</sup>	13 (6 to 17)	13 (6 to 17)	1 to 24
POEM Week 4 <sup>d</sup>	13 (6 to 17)	13 (6 to 17)	1 to 23

3. Outcome analysis

3.1. Primary outcome: POEM score at last visit

Response	Kānuka Oil N=35	Control N=35	Analysis method
POEM visit 2 Mean (SD)	6.8 (5.5)	9.8 (6.5)	Pre-specified primary analysis <sup>a</sup>
			Simple t-test
			-3.10 (-5.04 to -0.21)
			P=0.036
			-2.97 (-5.53 to -0.09)
			P=0.044

<sup>a</sup>Adjusted for baseline POEM score and whether there was treatment escalation

3.2. Secondary outcome variables

3.2.1. Proportion of participants with greater or equal to 4 improvement in POEM score last visit compared to first visit

Response	Kānuka Oil N=35	Control N=35	Relative Risk (95% CI)
POEM visit 2 Mean (SD)	31 (94.3)	27 (77.1)	1.22 (1.00 to 1.49)
			P=0.040

3.2.2. POEM score at last visit in those participants who were treated completely per protocol

Response	Kānuka Oil N=24	Control N=19	Analysis method
POEM visit 2 Mean (SD)	6.42 (5.64)	7.89 (5.92)	ANCOVA <sup>a</sup>
			t-test
			-1.47 (-5.04 to 2.19)
			P=0.41
			-1.48 (-5.05 to 2.10)
			P=0.41

<sup>a</sup>Adjusted for baseline POEM score

3.2.3. PO-SCORAD at last visit

Response	Kānuka Oil N=41	Control N=39
PO-SCORAD visit 2 Mean (SD)	24.8 (7)	24.8 (7)

2.3. Categorical variables

Variable	Kānuka Oil N=41	Control N=39
Female Sex	29 (70.7)	30 (76.9)
Cosul After	14 (34.2)	13 (33.3)
Ethnicity		
Asian	2 (4.9)	4 (10.3)
European	27 (65.9)	25 (64.1)
Māori	10 (24.4)	19 (48.5)
Pacific	2 (4.9)	0 (0)
Per protocol Yes	25 (61.0)	19 (48.7)
Treatment escalation	7 (17.1)	5 (12.8)
Withdrawal worsening	4 (9.8)	4 (10.3)

# THE LANCET

## Efficacy of a 3% Kānuka oil cream for the treatment of moderate-to-severe eczema: A single blind randomised vehicle-controlled trial

Nicholas Shortt,<sup>1,2,3,4,5</sup> Alexander Martin,<sup>6</sup> Kyle Kerse,<sup>7</sup> Gabrielle Shortt,<sup>8</sup> Iva Vokalalabure,<sup>9,10</sup> Luke Barker,<sup>11</sup> Joseph Singer,<sup>12</sup> Bianca Black,<sup>13</sup> Angela Liu,<sup>14</sup> Allie Eathorne,<sup>15</sup> Mark Weatherall,<sup>16</sup> Marius Rademaker,<sup>17</sup> Mike Armour,<sup>18</sup> Richard Beasley,<sup>19</sup> and Alex Sempini,<sup>20</sup> on behalf of the Medical Research Institute of New Zealand's Pharmacy Research Network<sup>1</sup>

<sup>1</sup>Medical Research Institute of New Zealand, Wellington, New Zealand

<sup>2</sup>Victoria University of Wellington, Wellington, New Zealand

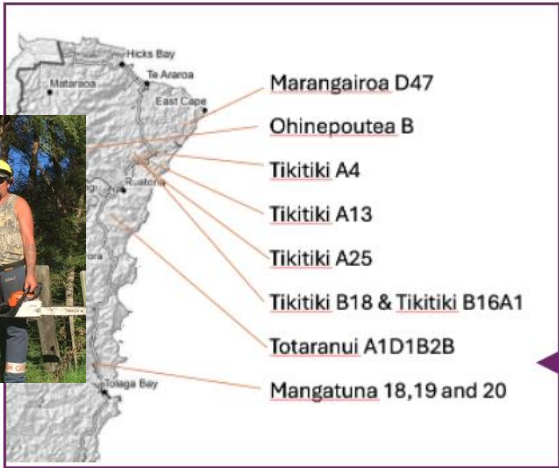
<sup>3</sup>Te Marae Ora (Ministry of Health), Rarotonga, Cook Islands

<sup>4</sup>Alexander Pharmacy, Wellington, New Zealand

<sup>5</sup>University of Otago, Wellington, Wellington, New Zealand

<sup>6</sup>University of Waikato, Hamilton, New Zealand

<sup>7</sup>NICM Health Research Institute, Western Sydney University, Penrith, Australia



**Waiapu Valley Charitable Trust**

- Education
- Environment
- Enterprise

20% going to 8 Ahu Whenua Trusts

Original Investors



100%

35%

35%

30%

**Kānuka Charitable Trust**



manufacturing & distribution to clinics and retailers

Licencee



THE LANCET

100%

**Eczema Product IP**



Licensed for commercialisation

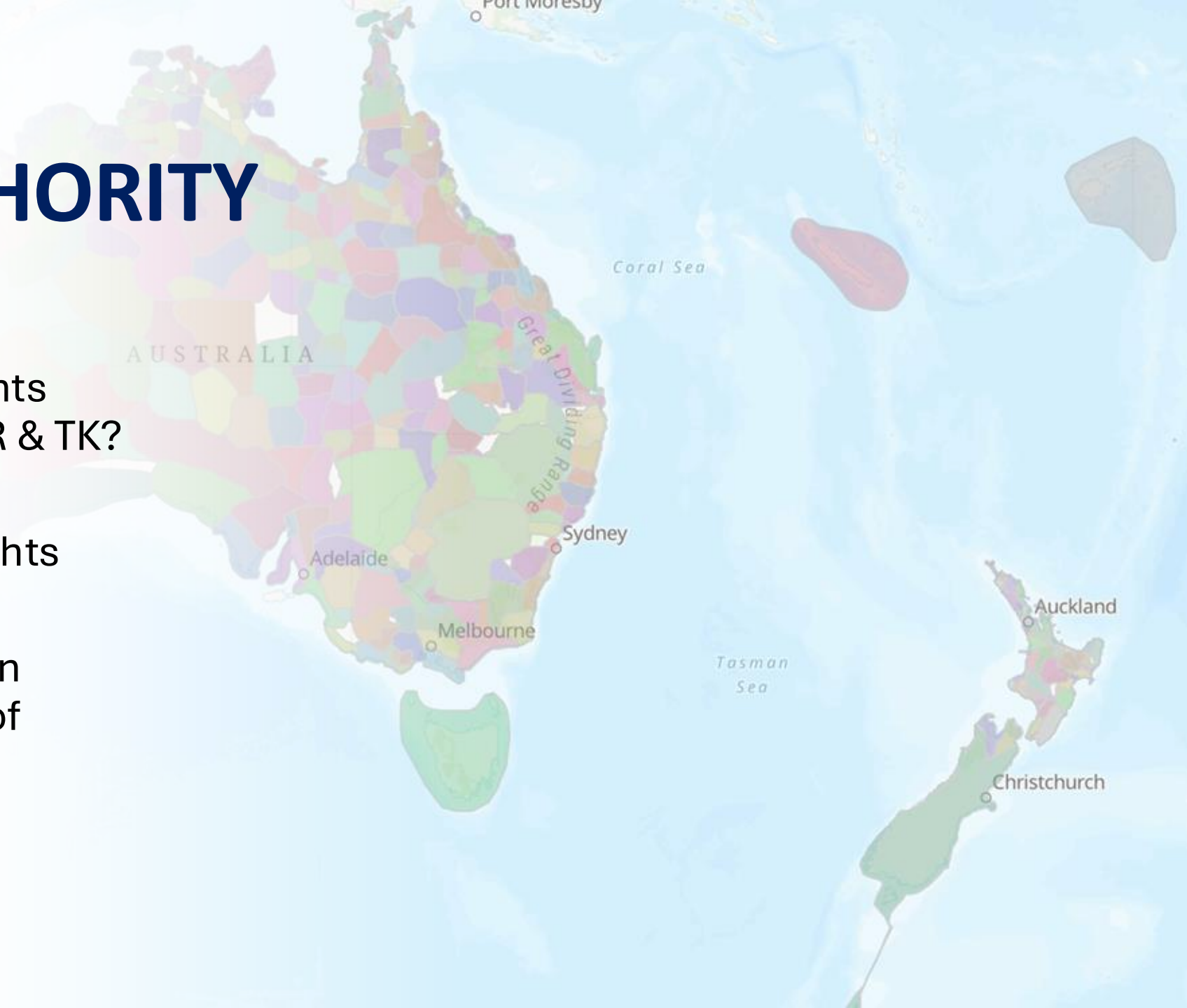






## 3. AUTHORITY

- Who is a legitimate rights holder in relation to GR & TK?
- How are shared responsibilities and rights exercised in practice?
- What mechanism/s can facilitate the exercise of shared rights and responsibilities?



# The Problem

1. Biopiracy risk
2. Fragmented IPLC governance of species
3. Unclear protocols for researchers and companies
4. Global trends and regulatory frameworks



# A Possible Solution

A platform for:

- a) IPs & LCs collective deliberation and shared decision-making
- b) resource sharing (organisation policies, legal agreements, commercial structures, etc.)
- c) connecting researchers, regulators and companies with rights holders
- d) building trust and certainty





**KĀNUKA  
CHARITABLE  
TRUST**

**WAIRUAKOHU  
CHARITABLE  
TRUST**

**KARAMŪ  
COLLECTIVE**

**TE PUA O TE  
RĒINGA OHŪ**

**MAKOMAKO  
OHŪ**

**AFFILIATED IPs & LCs**

Ngāti Hinerangi



Ngāti Hauā



Te Kawerau a Maki



Ngāti Pūkenga



Te Rūnaka o Koukourarata



Ngāti Porou



*Te Whānau a Tuwhakaitiōria*



*Te Whānau-a-Hunāra*



*Te Aitanga-a-Mate*



*Te Whānau-a-Ruataupare*



Tuawhenua Lands Trust



etc.

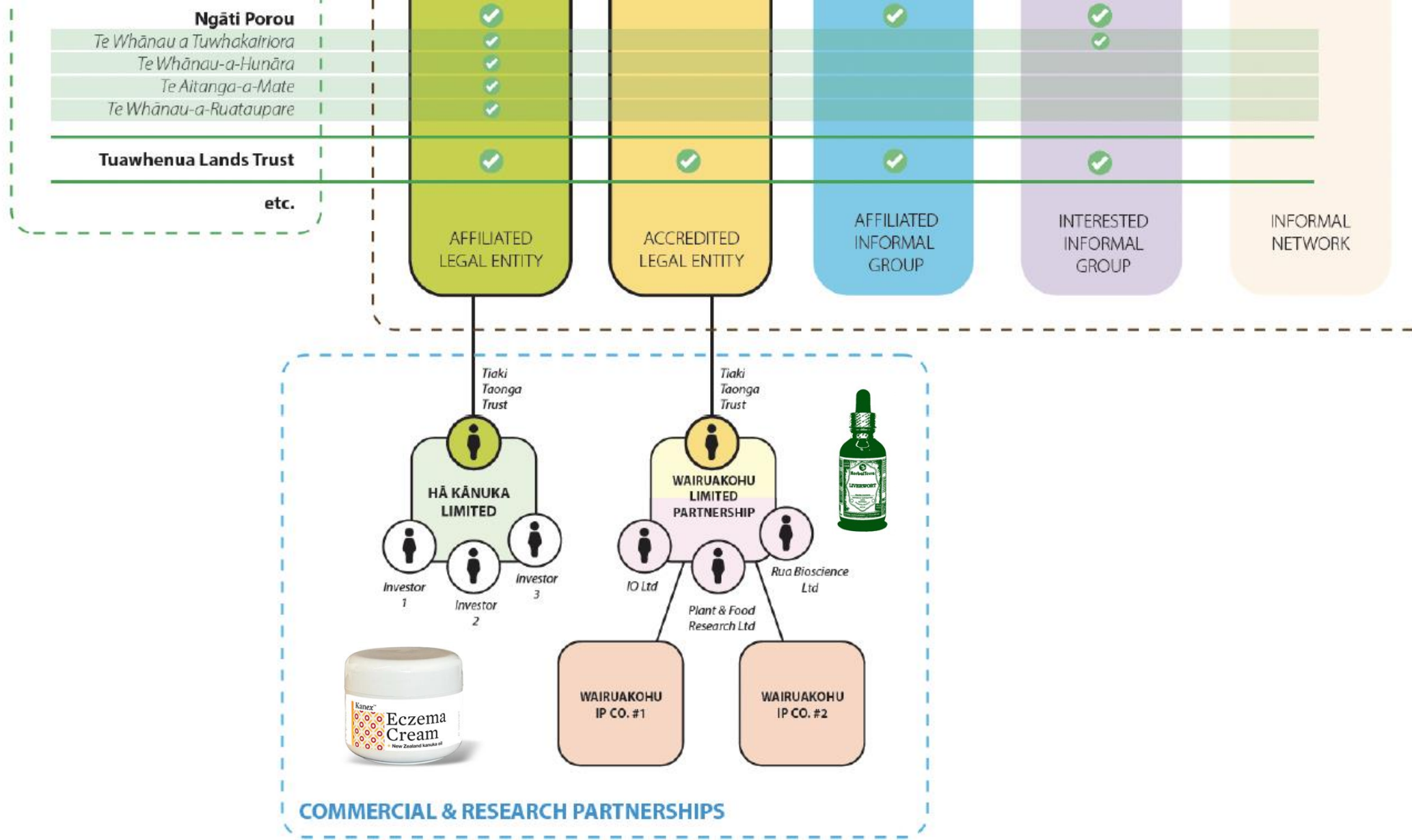
AFFILIATED  
LEGAL ENTITY

ACCREDITED  
LEGAL ENTITY

AFFILIATED  
INFORMAL  
GROUP

INTERESTED  
INFORMAL  
GROUP

INFORMAL  
NETWORK



Secretariat governance group elected by affiliated groups



## Secretariat

### Capacity & Capability Building

- resources / templates for trust deeds, research project agreements, material transfer agreements, commercial structures, ABS policies, etc.
- supporting new ohu for a particular taonga (interest group > working group > legal entity > affiliated entity)

### Tuhonotanga

- connecting groups with shared interests
- providing mediation to reach agreement
- developing good practice with affiliated entities that cover things like: inclusivity, transparency, participation, protection, utilisation, ABS, record-keeping, etc.

### Stakeholder Engagement

- engagement with industry, researchers, media & Crown
- international engagement - identifying good practice, contributing to global agreements, connecting with other Indigenous Peoples organisations working on these issues

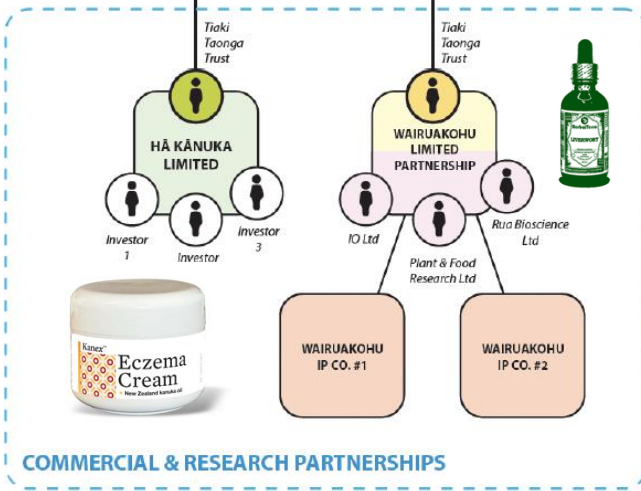
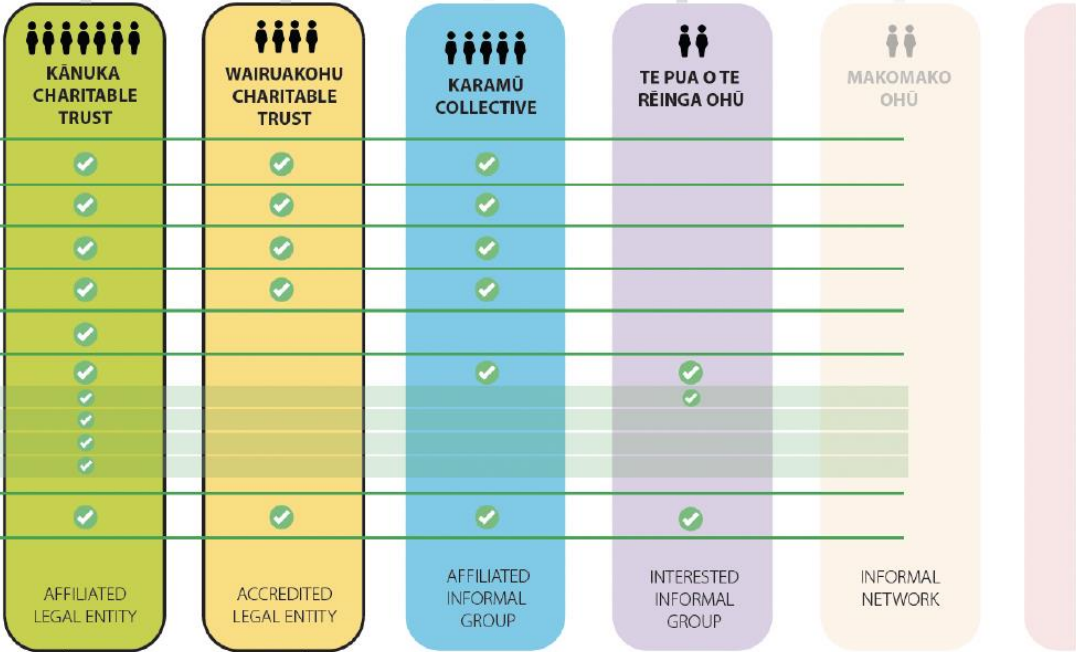
### Identifying & Responding to Opportunities & Challenges

- reviewing commercial/research proposals
- identifying kaitiaki/taonga/taiao needs and solutions

Initial resourcing might be philanthropic/private/public funding - in time some ohu can be resourced by commercialisation revenue (levy on sales, or taonga/ohu as shareholder, etc.).

## COLLABORATIVE WORKING GROUPS

AFFILIATED IPs & LCs	KĀNUKA CHARITABLE TRUST	WAIUAKOHU CHARITABLE TRUST	KARAMŪ COLLECTIVE	TE PUA O TE REINGA OHŪ	MAKOMAKO OHŪ
Ngāti Hinerangi	✓	✓	✓		
Ngāti Hauā	✓	✓	✓		
Te Kawerau a Maki	✓	✓	✓		
Ngāti Pūkenga	✓	✓	✓		
Te Rūnaka o Koukourarata	✓	✓	✓		
Ngāti Porou	✓		✓	✓	
Te Whānau a Tuwhakaitiāria	✓			✓	
Te Whānau-a-Hunāra	✓				
Te Aitanga-a-Mate	✓				
Te Whānau-a-Ruataupare	✓				
Tuawhenua Lands Trust	✓	✓	✓	✓	
etc.					



## COMMERCIAL & RESEARCH PARTNERSHIPS

# taonga.maori.nz



by Wairuakohu Charitable Trust  
and Kānuka Charitable Trust

## Welcome

A Māori-led, collaborative system that connects kaitiaki and other stakeholders to uphold kaitiaki rights and responsibilities



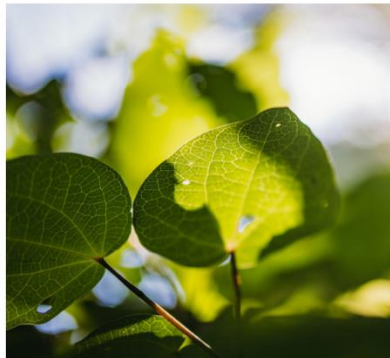
Register Kaitiaki  
Group



Connect To  
Taonga Group



Login (For  
Registered  
Users)



**This platform supports kaitiaki to register interests in taonga species and work together on their protection and use.**

It provides a secure and collaborative space where kaitiaki can connect with others who share responsibilities for the same or similar taonga, discuss opportunities and make decisions together.

The platform is established by and for kaitiaki, not government or industry or anyone else. We will build and manage this together in ways that are safe, respectful and inclusive. Naumai, haramai!

# IPs & LCs Registration

- Group name (tribe, sub-tribe, etc.)
- Contact details
- Type of entity (legal, informal, etc.)
- Evidence of group endorsement
- Geographic area/s of interest
- Species of interest

## Apply to register new Kaitiaki group

Complete the form below if you would like to register a new Kaitiaki entity in Te Pūnaha Taonga. You need to provide information about the group you are representing and evidence that you are authorised to act as its representative.

Before proceeding, please review the [Terms of Use and Privacy Statement](#) to ensure you understand how your data will be used and your responsibilities to other members of the Te Pūnaha Taonga community.

If your application is approved then a new user account will be created allowing you to login to the platform as the group administrator, so you can interact with other Kaitiaki groups and register your group's Taonga interests.

### Apply now

Name of group

E.g. Ngāti Hinerangi

Description

Please provide a short summary of your group and your interests

Does this group have a website?

Enter website address here (if you have one)

Type of group

-----

Legal structure

-----

Your first name

Joe

Your last name

Bloggs

Your email address

joebloggs@gmail.com

Your phone number

021 123 4567

What is your official role in the group?

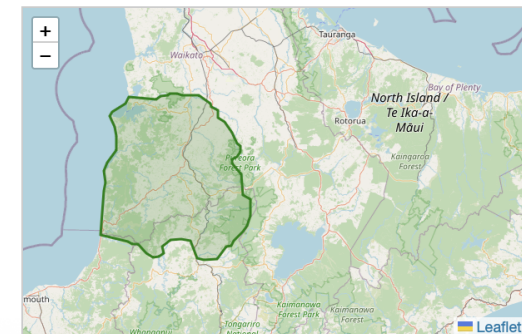
E.g. director, chairperson, founder

What evidence supports your right to represent this group?

E.g. a letter of confirmation, current certificate of status, or contact details for a referee.

Area of interest (choose 'Custom' to draw your own)

Maniapoto



# Species Group Contact Form

- Identify enquirer
- Which species they're interested in
- Purpose for enquiry (research, commercial, conservation, etc.)

## ✉ Contact Taonga group

Please tell us a bit about yourself and what you would like to ask. We will get back to you as soon as possible.

First name

Last name

Email address

Phone number

Role

Organisation

Location

Website

Which Taonga group do you wish to contact?

Subject

Message

Please type your message/question here.

# IPs & LCs discussion and decision-making platform

- Raise opportunities and/or concerns
- Deliberate on issues
- Share resources and events
- Make decisions collectively

The screenshot shows a web interface for a group named "Te Pūnaha Taonga". At the top, there is a navigation bar with a menu icon, the group name, and the text "by Wairuakohu Charitable Trust". On the right side of the header, it says "by Wairuakohu Charitable Trust and Kānuka Charitable Trust". Below the header, there are navigation links: "Home", "About", "Profile", and "Logout".

The main content area is divided into several sections:

- Kānuka**: A section providing information about the species, including common names and its indigenous status in Aotearoa.
- Group message board**: A section for discussions, featuring a sidebar with topic tags like #General, #Research (2 unread), #Commercialisation (3 unread), #Conservation, and #Regulation (1 unread). The main area shows a list of messages under the #Commercialisation tag, with the most recent one from Jen Haua (Ngāti Pūkenga Iwi ki Tauranga Trust) dated 29/07/25 at 20:07. Below the messages is a text input field for posting a message or replying to the group, with a "Send message" button.
- Group proposals**: A section for proposals, currently showing "No proposals matching filter".
- Group information**: A section listing the administrator (Manu), secretary (Caddie), and members (Nama Ono Totarunui A1D2B2B, Tikitiki A4, and Ngāti Pūkenga Iwi ki Tauranga Trust). It also includes buttons for "Edit group settings" and "Manage membership".

At the bottom left of the page, there is a link to "Return to dashboard".

1.

## KNOWLEDGE

GE



TK stratification,  
including DSI as TK  
owned by the organism

2.

## PROTECTION

N



Protection for TK, GR and  
Indigenous Rights persists  
across IP life-cycle

3.

## AUTHORITY

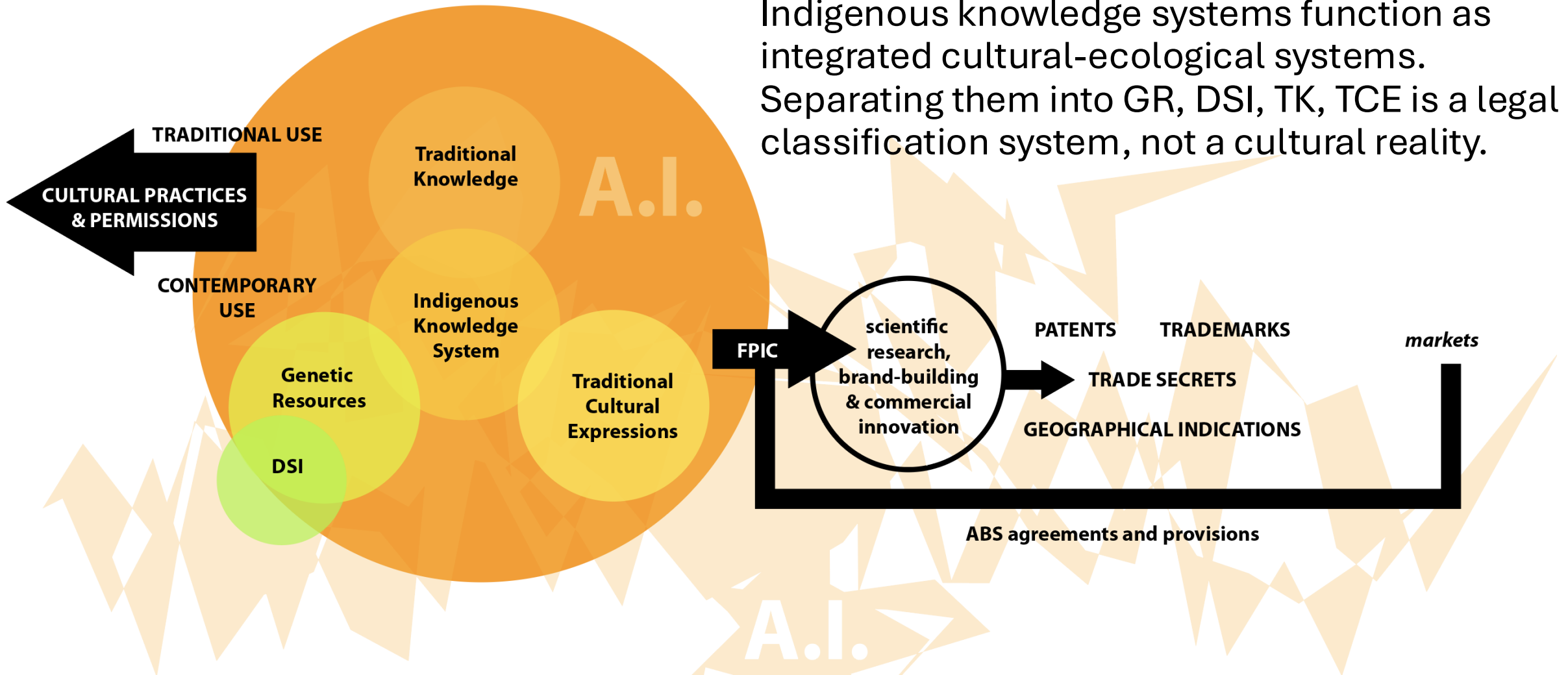
Y



Distributed  
Indigenous Authority  
& Decision-Making

# Integrated Indigenous Knowledge Governance

Indigenous knowledge systems function as integrated cultural-ecological systems. Separating them into GR, DSI, TK, TCE is a legal classification system, not a cultural reality.



Effective and equitable governance mechanisms will:



recognise interconnected  
knowledge systems



protect cultural integrity across  
research and commercialisation



enable collective decision-making  
by rights holders

A close-up photograph of vibrant green moss, showing individual leaf-like structures and small, dark, spherical spores. The moss is densely packed and has a slightly wet, glistening appearance. The background is blurred, emphasizing the texture of the moss.

[manu@enquire.co.nz](mailto:manu@enquire.co.nz)

[wairuakohu.org](http://wairuakohu.org)

[hikurangibioactives.co.nz](http://hikurangibioactives.co.nz)

[taonga.maori.nz](http://taonga.maori.nz)