

Towards best practice in ABS: The CIMTECH Koutu-Nui Agreement

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Setting the Scene: Cook Islands Laws

- The Cook Islands does not have an ABS law or similar.
- In 2007 they started drafting an ABS Bill.
- In 2009 they started drafting a Traditional Knowledge (TK) Bill.
- Since c2007 they have had a research permit requirement for foreigners conducting scientific or research activity in the country, including the taking of biological samples.

Setting the Scene: Dr Matheson

- As a keen rugby player growing up in the Cook Islands, Dr Matheson had witnessed the traditional application of medicines to wounds and bone fractures.
- In 2003 Dr Graham Matheson (now dual citizen) had completed medical training & masters of biomedical engineering at UNSW in Sydney Australia and found opportunity to research a specific Cook Islands Traditional Medicine, specifically the *Vairakau Ati* (traditional treatment for fractures).

The Vairakau Ati

- The Taunga (traditional doctors/healers) of the Cook Islands have various 'recipes' for treating fractures. Dr Matheson sought to identify the specific plants and bioactive compounds responsible for human tissue repair.
- The plants are generally found quite widely in the Cook Islands, on public and private land, by the roadside etc.
- Are also likely found in much of the Pacific.

Seeking Local Approval

The Koutu Nui

- The Koutu Nui are a lawfully recognised indigenous representative body established in written law in 1972 under an amendment to the 1968 House of Ariki Act.
- Under Cook Islands customary law, each district has an Ariki (paramount Chief) and each Ariki has a number of Koutu – representatives of sub-districts and the chiefs who were responsible for the cultural heritage of the Cook Islands.
- The Koutu Nui, a formal assemblage of these chiefs were charged with overseeing the cultural impacts of modern lawmaking (Sissons, 1998).

Seeking Local Approval

- In accordance with the culture of the country, no research on traditional medicine would be accepted by Cook Islands society if it was not approved by the traditional leaders.
- Dr Matheson approached Te Tika Mataiapo - Ruby Dorice Reid, the president of the Koutu Nui.
- The Koutu Nui was chosen by Dr Matheson as the broadest group of traditional leaders which include many Taunga (healers/doctors). Their role in the community include accepted traditional practices, notably the Rauī.

Raui



Reaching Agreement

- Te Tika Dorice Reid was at first skeptical but listened and asked for more information. A clear proposal for the research and development was outlined.
- The need for ownership, including commercial development of the findings was explained and the cost and time span of the project was estimated to be longer than 10 years.
 - Research starts relatively cheap, but becomes extremely expensive
 - Money for research and development will dilute the holdings
 - Non patented findings will not result in any social, medical or financial outcomes as the cost of full development will not be realized if the information is not protected
- The Koutu Nui executive met, returned with questions, and reconvened to unanimously approve the project (cMarch 2003).

Seeking Local Investment:

- Pilot study funding was sought from the Ministry of Health in March 2003. They advised that Dr. Matheson seek aid funding for the project from other sources. No regulations, permissions or permits were advised for the project.
- (cMay 2003) Representatives of the Ministry of Culture, Aid Coordinating Committee and the Ministry of Finance and Economic Development were also approached by Dr Matheson.
- Having no objections to the research and expressing no interest in involvement in the research, they also suggested external grant funding to support it.
- With no other options, Dr Matheson personally funded the pilot studies with some resourcing from UNSW.

Respect for TK

- (cMay 2003) The Koutu Nui provided a bottle of Vairakau Ati prepared by Taunga Ngateina Ngapare and handed to Dr Matheson by Dorice Reid. This arrived too late to be used in the research, but was felt to be extremely important to the Koutu Nui that they provide hand over the Vairakau Ati as proof of their commitment.
- This is also reflected in the wording of the agreement/deed, Koutu Nui shareholding, and joint-ownership of IP.

The CIMRAD-Koutu Nui Agreement

- Matheson reached a benefit-sharing agreement with the Koutu Nui under mutually agreed terms.
- A company, Cook Islands Medical Research and Development (CIMRAD), was **incorporated with Matheson and the Koutu Nui 50-50 shareholders.**
- This was agreed to be the vehicle through which the R&D would be commercialised, with the Koutu Nui agreeing to take responsibility for the allocation of monies it received, as a shareholder, for the benefit of the indigenous inhabitants of the Cook Islands.

The R&D: Skin care, Wound Healing and Bone Healing

- Ultimately the Taunga of the Koutu Nui did not provide the TK/GRs used, but rather Graham developed his own formula based on various pieces of information, with their approval.
- Graham obtained plants from within 100m of his home.
- A solution derived from the plants was carried to Australia.
- Dr Matheson undertook a study of pharmacological effects of traditional Cook Island methods of bone healing at the UNSW Orthopaedic Research Laboratories.
- He conducting cell culture experiments, testing on small mammals, fractionation and isolation of active ingredients, and quantification of the effects.

The R&D: Skin care, Wound Healing and Bone Healing

- Bio-active extracts of one or more of *Vigna marina* (Burm.) Merr., *Cocos nucifera* L., or *Terminalia catappa* L. in compositions and extracts providing therapeutic and cosmetic uses for promoting wound healing and for the treatment of skin disorders.
- Bioactive extract of *Hibiscus tiliaceus* L. and compositions providing therapeutic uses for promoting healing of bone and cartilage injuries.

Patent applications:

- Filed in Australia in May 2009 (and with the PCT in November) “Methods and compositions for the promotion of wound healing” AU 2009901952;
- Filed in Australia in December 2009 (and the PCT in May) “Methods and composition for bone and cartilage repair” AU 2009906034;
- Filed in Australia in November 2010 “Methods and compositions for the maintaining and improving the health of skin” Australian Provisional Patent No. 2010904905;
- filed in Australia in November 2010 “Methods and compositions for the treatment and prevention of skin disorders” Australian Provisional Patent No. 2010904906

Further R&D and Investment 2003-2009

- Dr Matheson invests \$300k to further research into bone development, wound healing and skin regeneration.
- UNSW provides in-kind services, material and infrastructure support for the ongoing R&D.
- An Australian company, CIMTECH Pty Ltd, was subsequently created to protect potential IP (Australia signatory to WIPO), take advantage of potential Australian grants and investment opportunities.
- Dr Matheson also establishes an Australian Trust whose beneficiaries include the Koutu Nui and the Matheson Family.
- CIMTECH is owned by the Australian Trust with their interests represented by its shareholding in CIMTECH rather than royalties.

Further R&D and Investment 2010-2012

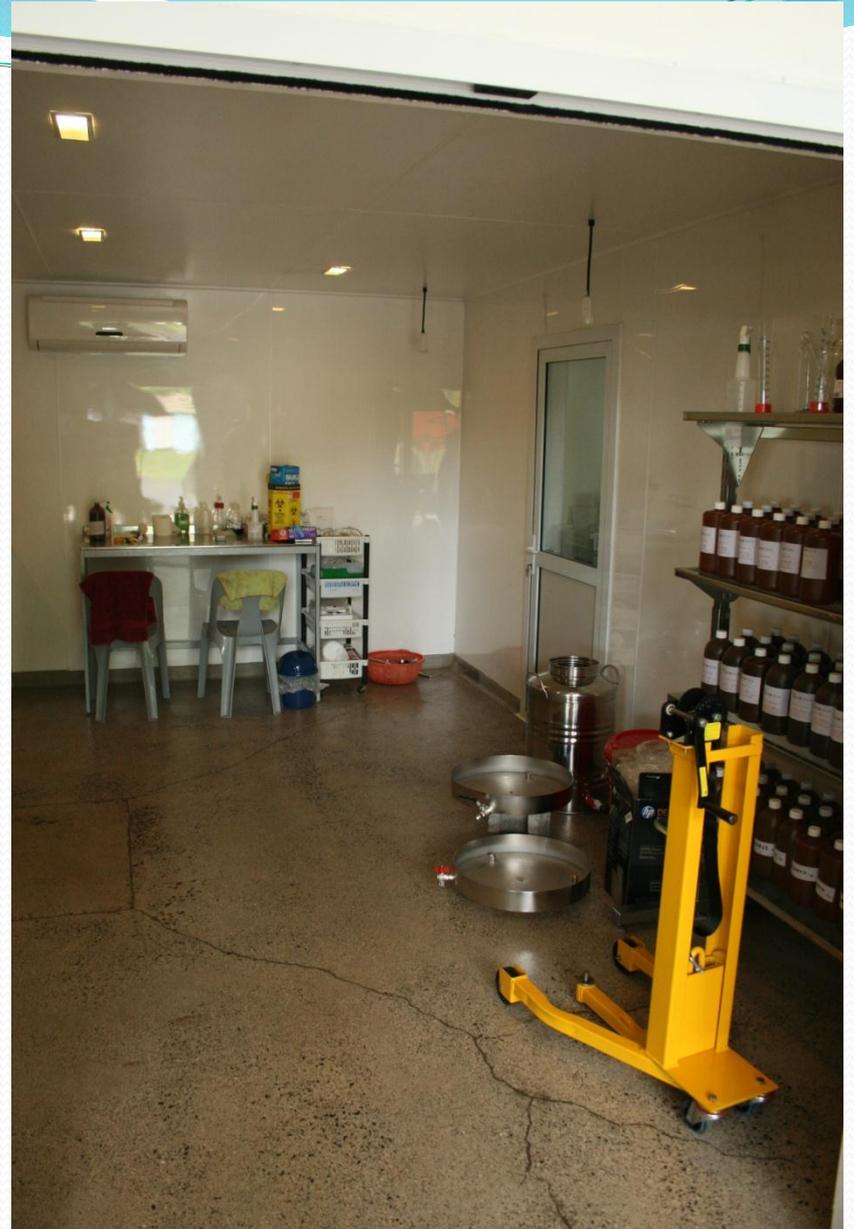
- In 2010, CIMTECH receives its first Australian grant allowing it to explore potential external investment and is subsequently successful in raising \$560k in pre-seed investment.
- In lieu of royalties, UNSW converts contribution into shareholding .
- Working with Cook Islanders, CIMTECH begins to set in motion its plans to build a facility in the Cook Islands and grow plants with Koutu Nui land owners.
- In 2011, a further \$800k is raised through high network individuals and another \$200k in Australian grants are applied for and received.

Today

- CIMTECH has now completed construction of a processing facility and laboratory on Rarotonga.
- Includes equipment for shredding the plants, pressing and extracting the infused oil, filtering/separating the oil solution, and systems in place for quality control.
- The facility has the potential to be used for other applications: cosmetics, essential oils, food additive products.
- In August 2012, CIMTECH is launching a cosmetic product line in the Cook Islands ahead of an international launch in 2013.



Source: Daniel Robinson, Rarotonga, 6/3/2012.



Source: Daniel Robinson, Rarotonga, 6/3/2012.

Alignment with CBD and Nagoya Protocol: Access

- At the time only the Bonn Guidelines existed.
- Access/permission was sought:
 - a) Prior to the conduct of pilot studies
 - b) With informed intent
 - c) With signed agreement with Koutu Nui on Mutually Agreed terms as voted by a formal assembly.
- TK and GRs did not come from a specific 'provider' group.
- Derivative taken to Australia (not GRs) for investigation.

Alignment with Nagoya Protocol: Monetary Benefits

- Payment of royalties – **No** – The royalty arrangement was converted into a shareholding
- License fees in case of commercialization – **No** – all benefits in form of shareholding so Koutu Nui has dividends rights.
- Salaries and preferential terms where mutually agreed – **Yes** – Cook Islands business utilized to provide all Cook Islands based activities.
- Research funding – **Yes** – Personal investment by Matheson, UNSW and Australian Government in a company registered in Cook Islands and Australia.
- Joint ventures – **Yes**
- Joint ownership of relevant intellectual property rights - **Yes**

Alignment with Nagoya Protocol: Monetary Benefits

- If commercially successful dividend payments to Koutu Nui will be decided upon by an assembly for activities such as Raui, community education, aged care, mental illness care etc.
- The Cook Island facility is currently employing ~12 people part time, in farming, processing, lab extraction, and quality control. More jobs can be expected (e.g. Sales, services, management).
- Research funding: \$264,000 in grants received from the Australian Government, and \$74000 from UNSW.

Joint Ownership of IP

- **Pub. No.:** WO/2010/127396
- **International Application No.:** PCT/AU2010/000519
- **Publication Date:** 11.11.2010
- **International Filing Date:** 04.05.2010
- **Applicants:** **CIMTECH PTY LIMITED** [AU/AU]; c/-
Lawler Partners 763 Hunter Street Newcastle West, New
South Wales 2302 (AU) (*For All Designated States Except
US*).
MATHESON, Graham [NZ/AU]; (AU) (*For US Only*)
- **Inventors:** **MATHESON, Graham**; (AU)

Non-Monetary Benefits

- Contributions to the local economy – **Yes** – (e.g. international cosmetic advertising and marketing will have beneficial effects for tourism).
- Research directed towards priority needs, such as health and food security, taking into account domestic uses of genetic resources in provider countries – **Yes** – the target of this bone regenerative and wound healing research is an unmet health need.
- Technology transfer – **Yes** – Process and procedures and equipment shipped to the Lab in Rarotonga for processing herbs/plants.

Non-Monetary Benefits:

- Institutional and professional relationships that can arise from an access and benefit-sharing agreement and subsequent collaborative activities – **Yes**
- Food and livelihood security benefits – **Yes**
- Social recognition – **Yes** – The project is recognized by CIMTECH, the Cook Islands and internationally as a Cook Islands project. The Koutu Nui have made statements that the project brings public recognition of their role.

Koutu Nui - Raui

- The Koutu Nui are likely to use dividend money to generate public awareness about the need for observation of Raui – marine conservation ‘no-take’ periods.
- Reminder: Objective 1 of the CBD that benefit-sharing should provide benefits towards conservation and sustainable use.

Lessons and Implications:

- Long term partnership agreements should foster longer term & broader benefits.
- PIC and Benefit-sharing on mutually agreed terms can be reached without a regulatory framework in place.
- Research Permits now in place (but gap regarding Cook Island nationals?).
- Expectations of instant 'green gold' need to be tempered – R&D and commercialisation takes 10 years+. Matheson's R&D on bone healing still continuing.

Lessons and Implications:

- Non-monetary benefits (or indirect economic benefits) may be just as important as direct monetary benefits.
- Where TK is widely held or public domain, seeking to engage consent from an indigenous body with broad representation seems appropriate.
- Question regarding how Taunga benefit?
- Under the Nagoya Protocol, once in force, 'derivatives' will come under the ABS regime, requiring PIC and MAT.

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- Koutu Nui President, Te Tika Mataiapo, Ruby Dorice Reid, was quoted saying that the research was a first for the Cook Islands and would provide a new industry: “It is such an important venture for us. We are really proud and excited that this traditional medicine can help people throughout the world. And the people of the Cook Islands will also receive a great deal of benefit from it” (Reid, cited by Smith, April 2011).

References:

- Sissons, J. (1998) 'Conspiracy, Class and Culture in Oceania: A View from the Cook Islands' *The Contemporary Pacific*, Spring 1998, pp164-178.
- Smith, D. (2011) 'Medicine Man makes no Bones about Paying Dues' *Sydney Morning Herald*, 9 April.
- WIPO Application: PCT/AU2010/001679, filed 10.12.2010
- WIPO Application: PCT/AU2010/000519, Filed 4/5/2010