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Maori and Science: Three Case Studies

FINAL REPORT

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Kia Ora koutou katoa

The present research captures only a small part of a bigger conversation that is being held in many different parts of Aotearoa. While Tangata Whenua groups have had many bad experiences of research collaborations, this research set out to capture three good experiences. So many thanks to those of you who shared your stories, your thoughts, your dreams and your experiences during this research. You have created a rich pool that I hope both other Tangata Whenua groups and science and research organisations can drink from and learn.

Thank you also to my two colleagues who took the time to review an earlier version of this report. Kia ora.

Heoi anö, nā Fiona Cram

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EXECUTIVE SUMMARY

In March of 2002 Dr Fiona Cram, IRI, was approached by the Royal Society of New Zealand about a small piece of research that they wanted to commission about Māori views of science and technology. The result was Dr Cram's proposal to the Royal Society that the research focus on three case studies of Māori communities/groups who had had reasonably positive interactions with scientists. The findings of the present research should go some way toward facilitating better interactions between Tangata Whenua and the Scientific Community.

Three case studies were therefore conducted with three Māori groups that have problem-solved an issue by the engagement with science/technology and mātāuranga Māori (indigenous knowledge). From this research Good Practice Guidelines were developed.

GOOD PRACTICE GUIDELINES

In order to facilitate productive and collaborative relationships between Tangata Whenua and scientists the following guidelines are proposed. The costs of ensuring that these guidelines are followed needs to be included in research budgets so that the initial stages of meeting and talking with science groups are cost-neutral for Tangata Whenua. These same cost considerations need to also be taken into account whenever Tangata Whenua groups are asked to consult with and/or collaborate with scientific groups.

Tangata Whenua

1. Tangata Whenua (/hapū/iwi) consult as a group to ensure that there is a shared agenda and purpose to initiating collaborative research relationship with scientists.
2. Scientific mediation may be an important component of collaborations and Tangata Whenua should consider building relationships with Māori and non-Māori scientists supplementary to any collaboration.
3. Rangatahi should be involved in collaborative research as this has multiple payoffs.

Scientists

4. Scientists wishing to build relationships with Tangata Whenua need to develop an understanding of their worldviews and cultural values.¹
5. Scientists and technologists need to acknowledge, respect and value the kaitiakitanga roles of Tangata Whenua.
6. The impact of timing and relationship building (e.g. hui) on project timeframes and budgets should be carefully considered.
7. Opportunities for Tangata Whenua to train and upskill should be allowed for within research budgets and timeframes.

Collaboration

8. Scientists should consult with appropriate Tangata Whenua and allow sufficient time for the determination of common research interests and priorities. Time needs to be set aside to develop understandings of each others' views and values.²
9. That scientists take the opportunity to conduct needs analyses alongside Tangata whenua to ensure clear understandings of each groups' needs and expectations of the interaction, as well as current knowledge bases.
10. That both parties engage in specific negotiations prior to interaction that clearly define shared goals and expected outcomes; including how information will be shared and disseminated.
11. That issues around intellectual property are discussed in the initial stages of a research relationship.
12. That a Memorandum of Understanding (or other significant documentation) be established to protect the rights and responsibilities of both parties.



¹ The Indigenous Research Protection Act refers to this as 'Cultural sensitivity training'.

² While it may be difficult to decipher who the 'appropriate' Tangata Whenua are, this may well come to light during these initial consultations. In addition, the research guidelines published by the Health Research Council lists those groups that might be the starting points for such initial consultations, e.g., Te Puni Kokiri.

INTRODUCTION

Research on, with, and/or for people involves the gathering of information which may be done for its own sake but is often done with a view to informing resource allocation and facilitating control. Research is therefore about power and power commands resources (Te Awekotuku, 1991). Tangata Whenua³ research, by, with and for Tangata Whenua, is about regaining control over Tangata Whenua knowledge and Tangata Whenua resources. However such research is not done in a vacuum – in the past Pākehā researchers have committed many transgressions against Tangata Whenua. This has led to suspicion and a lack of trust of research within Tangata Whenua communities.

Some of this distrust has been eased as whānau, hapū and Iwi become familiar with the procedures of the Waitangi Tribunal. The research needed to present a claim to the Tribunal has meant that Tangata Whenua have been able to reclaim tribal knowledge. This has also been accompanied by a growing awareness among Māori about the role of research. In addition the concepts of equity, partnership, and cultural and economic security that are implicit within the Treaty of Waitangi are gradually being applied to research. Reclaiming the Treaty's guarantee of Tino Rangātiratanga within a research context means rethinking so-called traditional (i.e. western) methods and research philosophies to see where they gel with a Tangata Whenua research kaupapa and where they are in opposition.

This growing awareness of research and the reclamation of Māori knowledge has opened up a new territory that Tangata Whenua and researchers are beginning to explore in close collaboration with one another. It is timely to investigate Tangata Whenua experiences in the area of science and technology and to ask communities what engagements and interactions have worked for them and which ones have not. The resulting descriptions and formulation of 'good practice' guidelines will complement research ethical guidelines and facilitate worthwhile outcomes in future encounters between Māori and science and technology.

³ 'Tangata Whenua' is used in this report more often, but interchangeably, with Māori. This reflects a preference by the participants and the regional researchers for the term 'Tangata Whenua' (people of the land).

Kaupapa Māori theory guided the present research and is described below. First, however, an overview of Māori experiences with research is given followed by an exploration of both local and international research protocols.

RESEARCH ON MAORI

The imposition of a dominant view of ‘reality’ onto minority groups has been described as scientific colonialism (see Table 1). Dell Small (1989) identifies the limitations of this dominant paradigm, namely “...the oppressed are identified, measured, dissected and programmed *from the outside* by the oppressor or the oppressor’s representatives. It is the oppressors with the help of their sciences who decide what are the goals of the research and how it will be carried out. The research is done on the oppressed. The problems studied are not the problems of the oppressed.”

Table 1 Comparative colonialisms (1980)

COLONIALISM MANIFESTED BY:	POLITICAL COLONIALISM	SCIENTIFIC COLONIALISM
1. Removal of Wealth	Exportation of raw materials and wealth from colonies for the purpose of “processing” it into manufactured wealth and/or goods.	Exporting raw data from a community for the purpose of “processing” it into manufactured goods (i.e., books, articles, wealth, etc.)
2. Right of Access	Colonial Power believes it has the <i>right of access</i> and use for its own benefit anything belonging to the colonised people.	Scientist believes s/he has unlimited <i>right of access</i> to any data source and any information belonging to the subject population.
3. External Power Base	The centre of power and control over the colonised is located outside the colony itself.	The centre of knowledge and information about a people or community located outside of the community or people themselves.

This epistemological approach sets up goal posts that must be achieved before knowledge is considered legitimate as well as ordaining who can know. The scientist is viewed as the expert ‘knower’, someone who has been trained within the scientific ethos to discover knowledge. Within wider society what counts as knowledge, fact, and truth reflects the power structures of a society. Often the knowledge of a particular

cultural group is privileged whereas the knowledge of other, often minority groups, is considered illegitimate (if considered at all).

Landeen and Pinkham (1999, p.ix), for example, argue that “one of the limitations of western science is its inability to recognize the traditional environmental knowledge that American Indians have been passing down to each other in their oral histories for millennia.” The authors go on to argue that the failure of western science is due to its inability to recognise the spiritual and cultural elements of this environmental knowledge, largely because they are unquantifiable. And yet such knowledge has invariably been acquired through careful observation and interaction over many centuries.

As identified by Linda Smith (1999), there is now a pressing need to decolonise the western approach to research. Pressure is being exerted both locally and internationally for more collaborative research relationships with indigenous peoples.

COLLABORATIVE RESEARCH RELATIONSHIPS

The power dynamics within research relationships changes when research collaborations are formed between researchers and indigenous peoples. Collaboration is about sharing with and learning from one another (Cram, 1997). Peters (2000) also argues that such collaborations between scientific and traditional knowledge promise to breakdown disciplinary boundaries and challenge current scientific thinking. He writes:

Scientific knowledge, on its own impetus, has reached the point where it can begin a dialogue with other forms of knowledge. In this sense, and while recognizing the fundamental differences between Science and Tradition, we see them as complementary rather than in contradiction. This new and mutually enriching exchange between science and the different traditions of the world opens the door to a new vision of humanity, and even to a new rationalism, which could lead to a new metaphysical perspective.

Whether driven by this promise and/or by an acknowledge of the Treaty of Waitangi, many of the main funding organisations within this country are beginning to address the need for collaborative research relationships between researchers and Māori. For example, ‘Guidelines

for researchers on health research involving Māori' have been developed by the Health Research Council.⁴ The Royal Society of New Zealand, in the process of reviewing its Code of Professional Standards and Ethics, has re-emphasised that its 'Members must be sensitive to the rights of individuals and communities, paying particular attention to...the Treaty of Waitangi.' The Foundation for Research Science and Technology identifies collaboration as one of three key principles and behaviours that guide Māori-related investment within the Māori Development and Advancement SPO. In their address to the 2001 'Whaia te Ara Putaiao o Aotearoa' hui, Pickering and Kape describe this principle:⁵

Meaningful involvement of Māori end users in research programmes from idea selection and programme design through to development and execution to the delivery of benefits for Māori end users. We seek evidence of consultation with Māori end users in relevant research programmes, that those research programmes reflect issues of importance for Māori development and that there are clear pathways for the delivery of the benefit of knowledge outcomes for Māori built into the research programme.

In addition, government agencies have incorporated the Treaty of Waitangi and respect for Māori worldviews into their work. For example, the Department of Conservation's aim within their Biodiversity Strategy⁶ is that by 2020 'traditional Māori knowledge, or mātāuranga Māori, about biodiversity is respected and preserved and informs biodiversity management'. The Ministry for the Environment's statement on the Treaty of Waitangi⁷ outlines areas for Māori input into environmental strategies and initiatives.

Garth Harmsworth (2001), of Landcare Research, has written an extensive description of the experience of his research team working collaboratively with Ngāti Porou. After identifying the need for an iwi to have the skills and capacity to engage in a research relationship, Harmsworth then describes the attributes needed by the individuals and organisations that want to collaborate with iwi. These include 'an

⁴ <http://www.hrc.govt.nz/Maoguide.htm>

⁵ <http://www.morst.govt.nz/creating/session2.html>

⁶ <http://www.doc.govt.nz/Conservation/The-New-Zealand-Biodiversity-Strategy>

⁷ <http://www.mfe.govt.nz/about/strategic/kaupapa.htm>

empathy toward Māori culture', 'excellent communication skills', and 'some understanding of te reo and tikanga'.⁸

While the list of initiatives outlined above is not exhaustive, there does appear to be, at least on paper, a commitment of funding and government agencies to the development of research collaborations with Māori. Below some of the writings of Māori and other indigenous groups about research and research collaborations are explored.

⁸ *ibid*, p.18.

MÄORI VIEWS ON COLLABORATION

In 1991, Ngahuia Te Awekotuku developed a discussion paper for the Ministry of Māori Affairs on research ethics in Māori communities. This paper, prompted by the dearth of Māori researchers and the need to guide non-Māori researchers wishing to work alongside Iwi, talks about the need for honesty on the part of the researchers and the right of Iwi to information, respect and cultural sensitivity. An important part of this is the respect for cultural and intellectual property rights.

In the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples⁹ the following recommendations are made to States, National and International Agencies:

2.1 Recognise that indigenous peoples are the guardians of their customary knowledge and have the right to protect and control dissemination of that knowledge.

2.2. Recognise that indigenous peoples also have the right to create new knowledge based on cultural traditions.

Similarly, in their 'Principles & guidelines for the protection of the heritage of indigenous peoples', the Alaska Native Knowledge Network defines the heritage of indigenous peoples as being comprised of all objects, sites and knowledge the nature or use of which has been transmitted from generation to generation, and which is regarded as pertaining to a particular people or its territory.¹⁰ This also encompasses future objects, knowledge and works. In addition, the definition states that the traditional owners of heritage must be determined in accordance with indigenous peoples own customs, laws and practices.

From her examination of national and international agreements, including the Mataatua Declaration, Aroha Mead (1996) has identified a minimum set of guidelines relevant to the protection of the cultural and intellectual property rights of indigenous peoples. These include:

⁹ Formulated at the First International Conference on the Cultural & Intellectual Property Rights of Indigenous Peoples, Whakatane, Aotearoa, 12-18 June 1993. Available at: www.aotearoa.wellington.net.nz/imp/mata.htm

¹⁰ <http://www.ankn.uaf.edu/protect.html>

- *Developing a Code of Ethics for Collecting and Using Indigenous ‘information’*
- *‘Ensuring that the maximum standards of Free and Informed Consent are obtained from indigenous informants’ and*
- *Sharing any financial benefits.*

As part of her work with Te Puni Kokiri¹¹, Mead has worked to transform the guidelines and the recommendations within the Mataatua Declaration into legislative initiatives that will protect Māori heritage. With respect to scientific environmental research the Maatatua Declaration is clear:

2.10 Ensure current scientific environmental research is strengthened by increasing the involvement of indigenous communities and of customary environmental knowledge.

The Indigenous Research Protection Act has been developed in the United States of America by the Indigenous People’s Council on Biocolonialism¹² to “assist tribal leaders and attorneys when a Tribe desires to protect itself and its people by taking control of research conducted on its Reservation. The Act acknowledges the sovereignty of tribes over their territories and the people, culture and natural resources contained there-in, including traditional knowledge. Within the Act, access to a Tribe for research purposes is through a Research Review Committee made up of five Tribal members. The Act also states that collaboration needs to be promoted ‘within the framework of mutual respect, equity, and empowerment’ (1.6).

‘Mutual understanding and trust’ is the comparable phrase used by the ANCUS Council in its ‘Ethical Principles for the Conduct of Research in the North’.¹³ Good intentions are not sufficient to ensure positive outcomes from research.

There is, therefore, much discussion among indigenous communities internationally about how better relationships can be formed between themselves and researchers. The aim of the present research is to document three experiences of these relationships within Aotearoa from

¹¹ Ministry of Māori Affairs

¹² <http://www.ipcb.org>

¹³ <http://www.yukoncollege.yk.ca/~agraham/ethics.htm>

the perspective of Tangata Whenua. The approach taken in this research was Kaupapa Māori. This is outlined next.

KAUPAPA MĀORI

Kaupapa Māori is “a theory and an analysis of the context of research which involves Māori and of the approaches to research with, by and/or for Māori” (Smith, 1996). A Kaupapa Māori approach does not exclude the use of a wide range of methods but rather signals the interrogation of methods in relation to cultural sensitivity, cross-cultural reliability, useful outcomes for Māori, and other such measures. As an analytical approach Kaupapa Māori is about thinking critically, including developing a critique of Pākehā constructions and definitions of Māori and affirming the importance of Māori self-definitions and self-valuations (Smith & Cram, 1997).

Locating Kaupapa Māori as an intervention strategy, Smith, Fitzsimons and Roderick (1998) highlight the following:

Kaupapa Māori encompasses the social change or intervention elements that are common across many different sites of Māori cultural struggle, and as the collective set of key intervention elements in the Māori-driven, cultural resistance initiatives.


Smith et al. argue that Kaupapa Māori has the potential to provide elements for effective transformation for the following reasons:

- *it has the capacity to address Māori social, economic and educational crises;*
- *it is derived, in part, from other intervention mechanisms but transcends them in its ability to identify particular structures and processes important for success;*
- *the notion of whānau is a core feature of Kaupapa theory;*
- *Kaupapa Māori theory explains the social change or intervention elements that are common across many different sites of Māori cultural struggle including within the educational sites of Te Kohanga Reo and Kura Kaupapa Māori;*
- *the notion of whānau is central to Kaupapa Māori knowledge, pedagogy, discipline and curriculum;*
- *its rationale is derived from Te Tiriti o Waitangi.*

There is a growing body of literature regarding Kaupapa Māori theories and practices that assert a need for Māori to develop initiatives for change that are located within distinctly Māori frameworks. This does not mean that we are unable to carry out research ethically, systematically and 'scientifically' (1996). In other words, our research remains rigorous.

SUMMARY

No longer is research constrained by the mere search for facts that denies who researchers are and where they have come from. Instead researchers can be of more use to Tangata Whenua when they seek collaborative research relationships. This is not something that is common in research on minority/ethnic groups as these groups have often been constructed as deficit by virtue of 'scientific' research findings and claims of objectivity. By acknowledging that 'reality' is diverse, research can begin to recognise Māori knowledge. Both Pākehā and Tangata Whenua groups are beginning to address these issues within their research strategies and protocols.



METHOD

Case Studies

Three Tangata Whenua groups were chosen as the focus of three separate case studies of how that group has engaged with science and technology. Case studies are a useful explanatory tool as they serve to make the unfamiliar familiar through a rich description of a context, the people involved, the documentation, etc. (Tellis, 1997). This is particularly relevant when the case being studied is a 'real-life' phenomenon (Yin, 1984). Data is gathered through a variety of research methods and although it is normally largely qualitative, it may also be quantitative.

The participating groups/communities were identified on the basis that they:

- Had reason to engage with science and technology;
- Found this experience reasonably positive; and
- Were willing to talk about their experiences with the researchers.

The research questions for the case study evolved from both a review of the literature and discussion with the regional researchers. The questions related to the following themes:

- What was the issue that the group/community were dealing with? – to gather the history of the issue, the people who were involved (for tracking down those who should be interviewed), where any documentation or media reports might be located, etc.
- What was the nature of the interaction with science and technology? – to gather information about the key people and organization engaged with, the nature of that engagement (including barriers and facilitators of engagement), the satisfaction with the process and outcomes, etc.
- What worked well and what did not work well for the group/community? – to gather information about 'good practice'.

As stated above the data sources for the proposed research were multiple and snowballed from initial contacts in the group/community.

For example, interviews with one key individual might have identified other individuals to interview, documents to examine, etc. Each case study looked different but interview guides, information and check sheets helped to ensure some consistency in the data collected and presented in the present report.

Analysis of the data was within-case. Patterns and themes within the data for individual case study were examined for within-group similarities and differences. Follow-up evidence was gathered if necessary. A detailed case study write-up then provided a rich description of each groups' experience. Draft case study write-ups were presented back to the group/community for comments and feedback. Cross-case analysis then examined the similarities and differences between cases. The literature review and the cross-case analysis were then the source of 'good practice' principles.

The present research report therefore consists of five sections: literature review; three individual case studies; a discussion, including 'good practice' principles.

CASE STUDY I

EFFECTIVENESS OF A RELATIONSHIP BETWEEN HAPÜ AND SCIENCE PROVIDERS

*A case study between the Tangata Whenua of the Ngāti Kere Rohe
and the*

National Institute of Water and Atmospheric Research Ltd (NIWA)



Flounder spears: Used Porangahau River.
Pouraka frame: Used to drop in to cray holes.
Hue (gourds).
Rongomaraeroa Marae in background.

PREPARED BY: JENNY W MAUGER AND DALLAS PAHIRI

***Ki tai e tu mai ra te maunga, te awa putahi o Ngāti Kere.
Te Paerahi ki uta. Te pounamu tieki kai.***



Blackhead / Pariomahu long known for abundant kaimoana

ACKNOWLEDGEMENTS

We would like to acknowledge the Tangata Whenua of the rohe of Ngāti Kere for their manaakitanga, for their time, and opening their homes up to us. We would also like to acknowledge our tamariki who also played a role in ensuring that the data collation ran relatively smoothly with their good behaviour. Finally, thank you to Dr Fiona Cram who assisted in ensuring that this project was instigated and provided necessary advice and support when needed.

INTRODUCTION

Hapū attitudes and perceptions to science and technology are considered in this review of experiences between Tangata Whenua in the rohe of Ngāti Kere¹⁴ and scientists primarily from the National Institute of Water and Atmospheric Research Ltd (NIWA). Ngāti Kere have been working alongside social and marine scientists to better understand the roles of rahui¹⁵, taiapure¹⁶ and proposed mahinga mataitai¹⁷ in the protection and restoration of kaimoana. The basis of the relationship between Ngāti Kere and NIWA has been one of logistics, knowledge sharing and joint fieldwork. In this introduction the rohe of Ngāti Kere is described, followed by an overview of their marine-related activities. Ngāti Kere's specific interactions with NIWA are then outlined.

THE ROHE OF NGĀTI KERE

The rohe of Ngāti Kere extends from Uepoto Stream to the north and the Akitio River to the South, centralised around Te Poho O Kahungunu, the whare tipuna at Porangahau, nestled on the coast of Central Hawkes' Bay. Porangahau aquatic environs boast extensive sandy beach and reefs of various descriptions, and a substantial estuary influenced by dramatic tidal changes. Kaimoana is abundant at

¹⁴ Ngāti Kere, Ngāti Pihere and Ngāti Manuhiri are the three main hapū of the rohe of Ngāti Kere. There are up to 18 hapū resident in the area referred to locally as the Rohe of Ngāti Kere. For brevity, this report will collectively refer to all the hapū in the rohe as Ngāti Kere.

¹⁵ A temporary prohibition of seafood gathering exercised in customary and traditional fishing. Section 186A of the Fisheries Act 1996 provides for temporary closures and method restrictions that give legal support to voluntary rahui. Rahui are designed to respond to local depletion of fisheries resources that may be affecting the ability of Tangata Whenua to catch fish for customary purposes and provide for the use and management practices of Tangata Whenua in the exercise of their non-commercial fishing rights.

¹⁶ A taiapure-local fishery includes estuarine or littoral coastal waters that have customarily been of special significance to iwi or hapū as a food source or for spiritual or cultural reasons under the Fisheries Act, 1996

¹⁷ Mataitai reserves are areas where the Tangata Whenua manage all non-commercial fishing by making bylaws. Mataitai reserves may only be applied over traditional fishing grounds and must be areas of special significance to the Tangata Whenua. The bylaws must apply equally to all individuals. Generally there is no commercial fishing within mataitai reserves.

Porangahau and has been famed as such for time in memoriam / mai rano (see maps below¹⁸).

In the preamble to the Customary Fisheries Research Project (see below, 'Coastal Archive Project'), one of the many research projects being undertaken by Ngāti Kere, it is stated that Ngāti Kere want to understand their current resource situation and determine how to best move towards a replenishment of the fisheries resource and a revitalisation of their community. A Whakapapa Unit on the marae is planned for storage of taonga, both historical and more recent.

Additional to the scientific effort is a customary fisheries oral history project ('Coastal Archive Project') spanning two years. Interviews are coming to a close and collating these is the next step in this project. Hapū members and members of the community have been both trained as interviewers and interviewed with funding sourced via the Ministry of Fisheries Customary Fisheries Funding Round, 1999.

As of last year, 2001, Te Whare Wananga o Raukawa has run a Marae Based Study (MBS) Programme at the marae requiring attendance at four noho marae (live- ins) throughout the year. This supports a part time office. Options are currently being explored to develop a Marine programme to be based at Rongomaraeroa Marae, Porangahau.



¹⁸ Maps are from <http://www.porangahau.co.nz/welcome.html>.

Ngāti Kere have therefore developed a systematic approach to managing local marine resources. The marine management tools in place in the rohe of Ngāti Kere are:

1. Customary Fisheries notification under Fisheries (Kaimoana Customary Fishing) Regulations, 1998. Currently in dispute resolution mode.
2. Taiapure O Porangahau (see below)
3. Recreational
4. Commercial. A hapū member is the local commercial crayfisher who launches from and the beach along with his son (one of the dive team)
5. Te Angiangi Marine Reserve (not delivering very well to hapū, but improving)

INTERACTIONS WITH NIWA

Interaction between hapū and scientists has been concerned predominantly with kaimoana monitoring survey techniques and demonstrations, prefaced with descriptions of the life-cycles of icon kaimoana species: karengo (seaweed, *Porphyra*), crayfish, paua, pipi, cockles, kina and various finfish. Environmental influences on the health of kaimoana resources were also considered by both the Tangata Whenua and scientists. NIWA's transferral and education of survey techniques was a component of the hapū / scientist interactions with ample opportunity made for dialogue involving conservation.

Taiapure O Porangahau

A taiapure-local fishery includes estuarine or littoral coastal waters that have customarily been of special significance to any iwi or hapū as a food source or for spiritual or cultural reasons. Any person may submit a proposal for the establishment of a Taiapure-local fishery. The Minister of Māori Affairs after consultation appoints a committee of management who appear to representative of the local Māori community.¹⁹

¹⁹ Sections from Fisheries Act, 1996

The Taiapure O Porangahau had a lengthy eight-year gestation period, prior to its gazettal. The Taiapure O Porangahau Management Committee consists of members from the Porangahau community with a few of the Tangata Whenua members now living outside of the village and immediate farming area. NIWA's association with the Taiapure O Porangahau was borne when NIWA approached the Steering Committee, in part funded by their successful bid to the Foundation of Research, Science and Technology's (FoRST) Customary Fisheries Research. Hence the relationship between Ngāti Kere and NIWA was struck through the Taiapure Management Committee constituting some hapū members - as yet NIWA has not dealt directly with the hapū structure. The one member, who has maintained active involvement although not resident in or around Porangahau, is one of the two researchers in this mahi rangahau (research) project exploring the relationship between hapū members and scientists.

Kaimoana Workshops and Kaimoana Monitoring Kit

Here is a brief outline of scientific effort (Western scientific model) related to kaimoana at Porangahau to date. Three Kaimoana Monitoring Workshops have been held ('Kaimoana Monitoring', 'Kaimoana Monitoring Workshop', 'Kei hea nga pipi / What's on our reef?'). The Taiapure O Porangahau and NIWA co-facilitated these workshops. The NIWA scientists involved in these workshops had expertise in kaimoana reef ecology and survey techniques, oceanography and sediment transport, soft-shore intertidal community ecology: shellfish (pipi, cockles), rocky shore stratification / biodiversity, karengo. Technicians with generic expertise in all fields were also involved (see Appendix).

Hapū and community members met at Rongomaraeroa Marae in the evening to begin the workshop and then spent the following one to two days in the field. Overnight stays at the Marae during the workshops allowed for debriefing and preparation for the next day. NIWA provided koha in advance to cover food and marae expenses.



Porangahau offers diverse weather conditions.

Hawkes' Bay Regional Council, the Department of Conservation (DoC) and other interested parties were also invited to participate in these workshops. This provided these organisations with opportunities to extend their partnership with hapū. The hope was that the NIWA example of engaging with hapū would provide the impetus for these other organisations to work in similar ways with hapū on environmental and land-use practise issues, including impact and restoration.

The Kaimoana Monitoring Kit was a separately funded initiative that followed the three workshops. NIWA was contracted by the Ministry of

Fisheries to produce handbooks and guidelines for monitoring kaimoana species: Koura (crayfish), Kina, Paua and Finfish.

One product of this project was the assembling (and training, if needed) of a five-strong dive team (four of whom are Tangata Whenua and three of whom live locally).²⁰ Committed local divers familiar with the diverse locations and conditions from Pariomahu to Cape Palliser were selected to update their diving qualifications and gain additional training to the level of NAUI Rescue Diver (including EmCare - First Aid) through a Hawkes Bay Dive Academy. This was the minimum qualification required to dive with the NIWA divers by NIWA's Dive Master, Mr Steve Mercer.

NIWA hosted a weekend workshop in Wellington to assess and further train the divers in survey techniques to measure size and populations of crayfish, paua, kina and wetfish. The intention was to use this team to collect subsurface data on kaimoana populations; however coastal conditions (i.e. the weather) intervened.

Following this, at Porangahau, NIWA delivered short seminars at which the NIWA scientists discussed western scientific understandings of the life cycles of key kaimoana species. NIWA imparted knowledge predominantly on kaimoana ecology, sub- and inter-tidal survey techniques to the dive team as well as the workshop attendees. Attendees were also given explanations of survey techniques and demonstrations of equipment to be used the following day/s: quadrats, spades, buckets and tape-measures for line transects.

These interactions between the hapū and NIWA were the focus of the present study. This case study is a culmination of a series of contacts with NIWA, giving insight into the fieldwork carried out to ultimately manage kaimoana and local resources in the marine and estuarine environments surrounding Porangahau.

²⁰ Four members of the team were trained as part of the project; the fifth member sought her own funding to become trained and take advantage of the opportunity the project offered.

METHOD

Initial Contact

Initial contact by the researchers was made through the Ngāti Kere Trustee Committee requesting permission to interview and conduct a study outlining the relationship that has been developed and continues to be developed, between local hapū and scientists.

Research Participants

The research participants were nine local people (three rangatahi, four pakeke, two kaumatua) who were all involved in the kaitiakitanga of the local marine, freshwater and whenua resources surrounding Porangahau. The Rangatahi were almost exclusively the members of the Dive Team. Other Rangatahi were participants in the Inter-tidal survey work, both in training and implementation. The interviews of the Rangatahi included three locally based men who were central to the dive survey expedition carried out with NIWA. Their training included dive instruction that involved weekly travel to Napier and a weekend course in Wellington.

Interviews

The fieldwork involved meeting with Ngāti Kere descendants and recording their narratives. Interviews were only conducted once individuals had agreed to participate in the study and had chosen to be interviewed either individually or in pairs (as was the case with two of the rangatahi and two of the pakeke). Primarily participants chose to be interviewed individually. Interviews lasted from 1-2 hours and were conducted mostly in the participants' homes with two interviews being conducted at the marae.

As a gesture of koha, each participant was presented with a taonga Māori made by two Ngati Kahungunu artists. These were presented at the end of the interview. The interviewers also sought permission and, when permission was granted, took photos of each participant as a record of the research project for the hapū.

Participants were assured that they retained their intellectual property and were given a copy of their interview transcript so that they could add to, amend and/or delete comments. Within the present report

participants are referred to by number in order to maintain confidentiality. A final copy of the research report will also be made available to participants, as well as to the Ngāti Kere Rohe Trustee Committee.


Framing the Interviews

During the interviews the researchers and the participants referred to a general framework of questions to promote dialogue. The overall fluidity and 'voice' of the research participants was paramount so the researchers mainly prompted and asked follow-up questions as necessary. The questions in the framework included:

1. Giving a brief personal background
2. Involvement and role in the project
3. Important priorities for the hapū
4. Process undertaken with scientists – step by step
5. Availability of alternatives
6. Possibilities for future development
7. What worked well
8. Possible improvements
9. How other hapū / iwi may benefit from Ngāti Kere experiences
10. Final comments

Analysis

The analysis involved the researchers reading transcripts and listening to the interview tapes, followed by discussion and agreement on the common themes that were emerging. These themes were then described and quotes from participants were chosen to illustrate each theme.



FINDINGS

KNOWLEDGE OF THE MOANA

Both Kuia and Koroua backgrounded their own as well as Ngāti Kere's involvement with the western scientific projects by elegantly outlining their whakapapa to their tipuna, the whenua, the moana and a myriad of related material. Their recollections were mainly of their own lifetime and often touched on the knowledge of their parents and earlier tipuna, including conservation knowledge.

So we were always taught, when you pick up a rock and there's a paua on it, you pick it up at all, you must place it back where you got it from and turn it back the way it was. You had to always be very careful of that because if you changed anything there, that would deter the paua from coming back . . . if you turned those upside down, they'd be on the top of the rock and that was all wrong, so those things you learned very quickly. Always told if you saw someone else doing that you had to go and tell them 'please don't do that because we won't have any pauas if you keep doing that. (Kuia)

The composition and abundance of bird, fish and seaweed life in Porangahau and environs were readily recalled.

When there was fish there was an abundance of fish, there was all kinds of pipis there: cockles at the river mouth, fish all the way up to Porangahau at one time – the Kahawai used to come all the way up there. The rocks around at Parewhakaruru and beyond at King's Camp to Whangaehu was always plenty of seaweed in the season and there was always plenty of pauas there, not many kinas along this coast but you get down to Blackhead or beyond the Cape, there was always plenty of kinas. There was abundant, you could get more than enough in no time at all. (Koroua)

Kuia pointed out that knowledge of territory was also an important part of what she had been taught:

... I was always made well aware of the fact that if I went to any other beach, I was not to go and get the kai from the moana because that wasn't mine ... my mother said you'll get drowned. I thought this was a dreadful thing to say, she'd say ... 'because you're not supposed to be in there, that belongs to somebody

else' ... 'I was not to go and get the kai from the moana because that wasn't mine.' (Kuia)

There was also the recognition by Kuia, Koroua and Pakeke that the abundance of kaimoana was a thing of the past. All the kaimoana species are in decline and their interrelatedness is at risk.

You only need to go to Porangahau and stand on the beach and you'll hardly see a seagull eh, have you ever seen that? Now one time there were seagulls on the beach there were seagulls out on the sea, fishing diving for fish, there were all kinds of seagulls – you know you had the gannets, the mollyhawks, the redgills, the blackgills, you know terns and even muttonbirds, they were all out there fishing. When we used to go out there fishing on our boat we had small boat, we got what we needed out there – there were always birds around the boat – but you won't see that now. You go there you might see a few gannets flying by and that to me I see them, that's a good indication that fish out at sea, you don't see a seagull here – no seagulls, no fish. (Koroua)



Kaimoana nursery area: the common question to all is "How to sustain and monitor growth of these key kaimoana species?"

While they were not specifically asked for their explanations for this decline in kaimoana, a number of reasons were given by participants. They talked about the lack the respect for the beach environment.

When we were children we weren't allowed to take horses down to the beach at all, we were made to tie them up at the fence ... but the wealthy people who had bought land at the beach and built homes had started bringing their horses out for their children to ride on the beach and from that it got to quite a lot of people. ... I had noticed that there were more horses than ever and there

were more cars on the beach, trucks and big trucks because they had metalled the roadway down there into the sand ... so everyone could take a car on the beach and they did. ... I noticed that the small pipi where the car wheels were, were squashed and that caused my curiosity to dig a bit further and walk a few more miles and I discovered that this was the case all along the beach. ... it they weren't exactly where the car wheel had run over, but where the sand had packed tightly on either side of the wheel, so that there was a lot of damage done, not just if you trod on one and squashed one, but the packing down of the wet sand crushed those tiny little paper-thin shelled ones ... I made up my mind ... I had no idea of the scientific part ... I thought that's what's doing and we'll have to try to and stop the cars. ... Then I learned that they were going to have horse races on the beach and was horrified, so I contacted the Council ... they saw no harm in this ... what right did I have, who was I? ... I told them there was a time that we owned the beach frontage ... then we lost something else too ... I didn't know whether to start screaming at him or to accept it. I have copies of the letters I got from him, telling me that nothing could be done about this. (Koroua)

Through their powers of observation and traditional knowledge, some Tangata Whenua suspected that removing the kaimoana from their habitat would disrupt them adversely. When kina were removed from rock pools for measurement, some of the Tangata Whenua suspected this disturbance would impact on their ability to remain in their holes. Similar concerns were expressed over unsettling pipi.

I've done two workshops with NIWA here. One of the very first ones and the last one. Then [Pakeke 4] and I have been down and taken our girls down and we've done two more since then along the beach. But I don't know where that's heading [surveys]. When we did the kina one down at Blackhead, and actually pulled those kinas out and measured them and then tried to put them back in their holes. [Pakeke 4] and I went down the next day and all of those holes were bare. So disturbing them, pulling them out has disturbed them and the high tide has obviously come in and washed them out of those holes. So we went back again and [Pakeke 4] actually photographed the pools – just to see – and so I'm wondering if it's worth it. Then we did the pipi one with our girls and we measured, there were heaps of pipis in there. Then we went back, we put them all back in the same place and then we went down three days later and did it again in the same place and there was nothing. So I'm wondering what's the purpose of this? Coz the food is moving around everywhere. (Pakeke 3)

Just going back on the monitoring they did on the reef on the nursery holes, we'd like to call them that are exposed at low tide, little bit unfortunate but we actually knew that. I don't know if the scientists knew this because they wouldn't have taken them out if they had have known. Now that we can actually prove in one sense that we don't do that again and prove to science that there's no need to pull them out of the water to measure them. Because this is what's going to happen, you're not going to get that same kina the next time we come back to the same hole, because they're going to be all gone and there'll be a fresh lot there. So maybe we'd have to think of say photographing them and having a system of measuring them while they are in their natural habitat, without taking them out. Just one tide will go through them and clean those holes right out – if they're loose. (Pakeke 4)

The taking of too much kaimoana by people was also raised.

We still monitor it by people we know who have taken too much, or strangers going home with a trailer load. See them turn up with a boat, different people. It's for straight greed why they're doing it. If you're too greedy it won't last a while... If you're just gathering round to sell it, you're the only one making out of it; that's greed. (Rangatahi 3)

Concerns surrounding environmental health and fresh water quality were also observed.

Since they've put the sewerage into in down at the Beach Bridge, there's always been that goo in the water. It's been sort of scum on the sides and at one stage it had sort of come right across the water excepting down the middle there seemed to be a channel where there was a current and that was clear. When we had quite a bit of rain ... and I noticed there wasn't so much down in the river and it began to clear up here. Whether that had something to do with that amount of stuff ... (Kuia)

Changes along the river ... there were whitiko, a mud snail and Māoris ate those... Now about the 50s / 60s they began to disappear along with a little blue mussel ... few people could tell you the name ... they were absolutely delicious. (Kuia)

KAITIAKITANGA

The knowledge that has been passed down in Ngāti Kere underpins the kaitiaki responsibilities that the hapū have for looking after and nurturing their environment. Kuia also talked about the wairua of the environment.



Stretches of Porangahau Beach once teemed with pipi and bird-life.

The wairua is so important. It's the wairua that's lost and that's the sort of thing that we get back and is the same thing we protect. ... It's only a matter of passing it on again ... (Kuia)

The perseveration of the marine environment is essential if the hapū is to continue to gather kaimoana for hui.

We do most of the gathering for the tangi(s) and that...when there's a hui on, we know where to get the paua from.... (Rangatahi 3)

Knowing what, where and when to harvest kaimoana falls to the Rangatahi divers.

We learn areas, we learn where the big ones are, you know where you can get more from, depends what you're up to. Big huis we can go to another place, little huis we go and get [these kaimoana]. (Rangatahi 2)

We won't go to that place. If there's a hui on or something and we need pauas, we know where to go to get the pauas but not to say that we always get them from there. (Rangatahi 3)

Opportunities for Tangata Whenua concerns being heard about the restoration and protection of the mauri of water and all that it contains are often either retrospective or reactive. For example, regulations related to net fishing have been made without Tangata Whenua input

and, as such, pose a serious threat to the kaitiaki role of Tangata Whenua.

When you talk regulations; we're overregulated with all these laws and by-laws and everything they bring in, eh? Sort of can't keep up with their regulations cause they change pretty regularly. I don't know how we overcome it. Just by meeting I suppose that we can put our input in and hopefully both parties can come together and make it work. We certainly want it to work in our hapū, there's a lot of things sacred to us, you know. But I just don't know how to put it. (Koroua).

Sometimes I get a bit frustrated with Pakeha influence, they're trying to tell us how we should live and where we should go and all that sort of things... Surely the time will come when they realise these indigenous people have something there that they never found, all of a sudden, well they might find it too late... We just want to put our points and see if can work around it. We know what our ancestors done for us. So that's all we're trying to do is carry on the traditions that we have through our ancestors. Work together, that's the main thing. (Koroua)

EXPERIENCE WITH NIWA

Positive collaborations

The interactions with NIWA were welcomed by Kuia. She was more than willing to share with NIWA her understandings and concerns about the kaimoana. Occasionally she felt that the NIWA scientists were 'pre-empting' her by telling her what they knew. The 'pre-empting' to which Auntie Ahi was referring, was on a positive note. When she made this comment, it was said warmly and with mild wonder that the particular scientist had not previously visited that beach yet understood it to an extent. Overall she had high hopes for the partnership.

When NIWA first came to us, it was so wonderful to hear them talking about the things they were interested in and how they wanted to show us how to do these things. ... I had gathered pipis for one of these occasions in their different sizes to show and to explain my fear because one of the things that I want to do is hand this beach on at the end of my time as near to what it was when I first played on that beach. If it can be anything like it, I'll be very happy. This seemed to be the light that I was looking for. (Kuia)

I was able to tell them how it (the river mouth) was and explain those sort of things to them (NIWA). In some cases they were pre-empting me and telling me what they thought it would have been like. For example, where the cockles were in the river. They could see this was the right place for cockles and they weren't surprised to know there were pipi and bigger ones (all in that area) there used to be toheroa... Even though I didn't talk in their terms, I found I could understand and they seemed to understand me. (Kuia)

Unanimously, across all age groups, those interviewed were comfortable with ongoing contact with the NIWA and their scientists.

It's something we need to go along with. We need them cause things have changed so from those early days when we didn't have to do a great deal about it – there's so much change going on the land; in the rivers and everything that we need the scientists otherwise we're not going to be able to manage this. I don't think we can manage alone – just by conservation, planting trees to stop erosion into our creeks and rivers and then to the sea. (Kuia)



**Previous Kaimoana Monitoring Workshop hosted by the
Taiapure O Porangahau Management Committee and
NIWA.**

Taha Māori and western science

When asked how the Taha Māori and western science of today might combine, overlap or complement each other, hapū members envisaged evolving relationships. The general theme was one of overall acceptance of western scientific tools being applied to protect and enhance kaimoana species along with their habitat and other factors that negatively impact on the health and habitat of freshwater kai.

I haven't really given that a great deal of thought. I know that there'd be quite a bit of opposition to that by some Māori because they don't want things to change from how they were. But things have changed and we can't stop it; it's rolling on and we need to be educated to the standard of those scientists so that we can understand it more... A wealth to gain from the sharing because having learnt the wairua side of things, there's no reason why our people can't pick up on the scientific side of things. We've had a bit of it (science) during our education at school so that we have the opportunity to have the best from both worlds and its there, its been offered to us, Pakeha brought to us in the first place... (Kuia)

We need to improve... science... all a beneficial gain... relearning. (Koroua)



Running intertidal transects measuring abundance and size of key kaimoana species. Pictured are Ngati Kere hapu and community members along with NIWA marine ecologist Ali Macdiarmid.

A complementary role for both forms of knowledge meeting was recognised with particular note for the younger ones having a wide range of skills with which to protect the coastline, its water and all it contains.

We come together and with their knowledge and the knowledge they gain from us, surely it must be an improvement for our coastline... The work they've been doing here is marvellous, at least we're learning – the younger generation – what's there. We can tell them all about our time - what we lived with, here comes the scientists, they giving you the scientific reason why those things are there and how it can stay there ... We need to tell this generation that, we knew all that before it happened, but when you try and tell some people some time, they don't even want to listen. If an intelligent fella, or somebody with a degree ... come along and tell them 'oh, we gotta listen'. So to me that's good. A lot of my kids don't listen to me, but they'll listen to someone else. Listening to the intelligent people, they know how to talk... It's a changing world now with the intelligence that's brought to us on our marae, we have to take notice. The younger ones will take notice because they gotta educate themselves to be in that position. I'm sure it'll work. (Koroua)

There was a reservation by one person that academia may shadow the local, practical and inherent knowledge of the hapū which could be overcome by mutual recognition of both forms of knowledge,

The only thing I got against them, they academic people eh? They say things to make it happen for them. They haven't lived it, you see? Perhaps between us coming together like that, they can learn from us and we can certainly learn from their knowledge. They're the knowledge of the future so let's listen, you don't have to listen to the lot, but you take what's out for you. (Koroua)

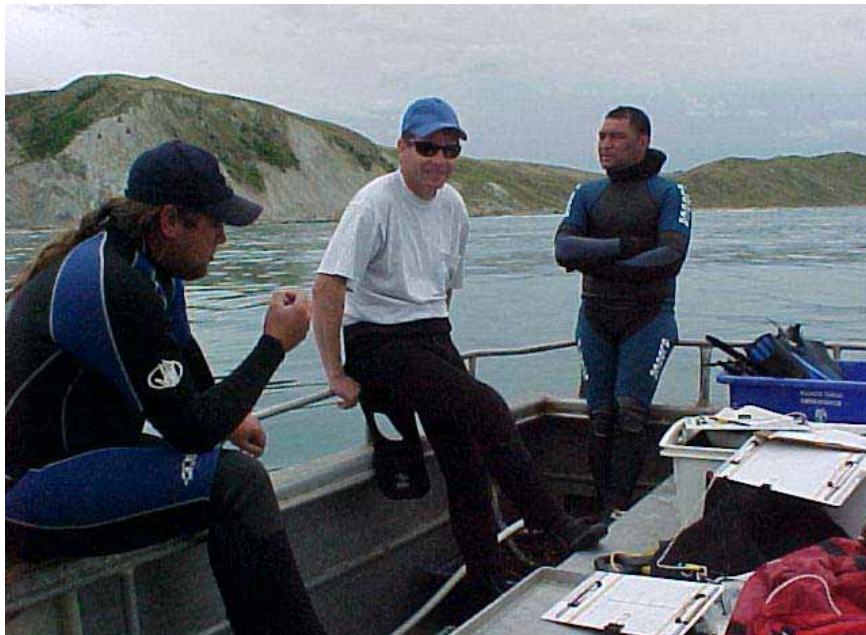
▪ **Experiences of rangatahi**

What was apparent in the discussions with the Rangatahi was that their passion for their mahi was pivotal to their relationship with NIWA; they took their kaitiaki role seriously. Training of the Rangatahi involved open water/deep sea diving certification and learning various methods of measuring shellfish size, researching marine life techniques and working out grid calculations of the seabed. The group generally held a very positive view of the scientists and saw them as friendly,

enthusiastic and 'genuine' in their efforts to consult, inform and work with their community.

They said there'd be a lot of diving. I enjoy diving so I thought I'd just do it. Needed people who knew how to dive already. Pretty interested in it when they started doing it ... started putting the Taiapure together. Then I thought they got a bit side-tracked at some of the meetings, I got sick of them. Diving's another way you can get into it, just went to it from there, plus I got a few tickets out of it. It's pretty good. NIWA showed us all the methods of how to research your grounds, all the different types of research like graphing and how to take photos, counting stuff. Counting fish, counting kinas, doing grids, laying out tape measures, like 50 metres and swimming along two on each side and studying them, counting everything that was on your side – was interesting. (Rangatahi 2)

The Rangatahi found the NIWA team's explanations of research techniques straight-forward and easy to apply underwater.



Flat, calm and perfect for diving.

It was easy, I thought it was easy. Just like going for a swim. Just giving you something to do while you're swimming. (Rangatahi 2)

They taught us pretty well. We picked up, was basic for us eh? We're pretty much more comfortable than a lot of people underwater ...coz we've started at a young age. We've been diving for a long time even though we're not very old guys. (Rangatahi 3)

Through prior training, one of the Rangatahi had a particularly keen understanding of designing surveys and statistical analyses. This same Rangatahi also recognised that effective marine management by the hapū and scientists, requires ongoing effort over many years. All three Rangatahi work in the primary industry sector and are reliant on good weather in order to work. Again, all three of the Rangatahi interviewed manipulate figures on a daily basis in the course of their work. For the time being, these Rangatahi would prefer to concentrate their Kaimoana Research efforts in the field. High seas and the weather precluded several attempts to run workshops on weekends that were fixed to coincide with extremely low tides. The call eventually fell to the Rangatahi to maintain a weather eye and contact NIWA directly when conditions were favourable. All hands had been on call over several months with the time frame eventually reduced to 36 hours between notification and commencement of the Kaimoana Monitoring Workshop.

Definitely have to work in with NIWA – that's their department soil, climates, marine biology, may be able – depends to what extent you need them for example, to source information, perhaps be careful – they'll always look at things through a scientific view, we may have different priorities, were going down our road. NIWA people that have came up once are culturally sensitive keen to help... gets back to who gathers information before... get back basic knowledge about where we want to go...for example before we start our diving for instance. (Rangatahi 1)

Benefits for other hapū

All age groups were certain that whatever succeeded in terms of developing fisheries management techniques between the Ngāti Kere and scientists could also be shared with other hapū and iwi around Aotearoa,

Don't know about other hapūs, they'll probably talk for themselves but they certainly improve us out here in the way of our take from the sea, the kaimoana and all that scientific research they done on all species down there: booboos, pipis, whetekos, crayfish, pauas. It's all a beneficial gain to us, we learn, we know more, although

we knew it once before but this is a new world, learn it the scientific way. But to me they're a beneficial gain and they should be to any hapū that have them. (Koroua)

... If one group or people are funded to carry out their research because its not as if it is only for, as it did used to be, your own little hapū, its something that's shared around the whole of New Zealand – whatever you find out the scientists are doing around the coast is something that's shared throughout New Zealand ... When I said shared those benefits, I was thinking of their fishing in their areas, it could of great help to them also, the things that we've discovered here can also be implemented in another area ... to conserve. (Kuia)

The Rangatahi were aware that NIWA was involving Ngāti Kere in field trials of the Kaimoana Monitoring Kit that would refine and repackage the kit in the short-term. Mid-term they could envisage being involved in helping to train other hapū in using the Kaimoana Monitoring tools and realised that the long-term will reveal the effects of their learning and training.

Hard to answer ... at the moment. Be good to give us another 3-4 years to see how it ends up. So at the moment we're just throwing things in the dark. ... We could help out other hapū the way that NIWA helped out us. (Rangatahi 2)

It could get other young people interested in diving. Around here I think it sort of did. We can write courses, perhaps role models, perhaps dive consultants ... (Rangatahi 3)



One of Ngati Kere's riches: the responsibility of kaitiakitanga, whanaungatanga and manaakitanga.

Facilitating factors

This section presents the factors that participants thought facilitated their collaboration with NIWA.

- ***Awareness of things Māori***

The Rangatahi noticed that the NIWA scientists displayed a degree of sensitivity to things Māori; for example, the appropriate use and correct pronunciation of Māori words.

They used all the proper words at all the right times: ... when they're talking about your hapū ... the odd time they'd slip in things like 'tribe'. (Rangatahi 2)

... kaitiaki was definitely one word they used and hui. (Rangatahi 3)

Also the morning the dive team left for the day on the boat, a permit had been obtained to dive for paua for a tangi. NIWA was encouraging.

- **Understandability**

The descriptions provided by NIWA were generally easy for people to follow.

NIWA's descriptions, they were good eh? And they did have a bit of background on Māoritanga, I think they've done that sort of stuff with other people. ... they made it so we could understand it, made it easier learning for us. I s'pose in turn they didn't have to bugger round so much, they didn't want to complicate it with big words ... save time. (Rangatahi 3)

I found some of the things quite hard to understand but I didn't think that was necessary because [we] seemed to be on the same wavelength. Even though I didn't talk in their terms, I found I could understand and they seemed to understand me. (Kuia)

- **Māori mediation**

The Rangatahi highlighted the importance Māori mediation whereby one of the scientists was Māori. She was not employed by NIWA though had previous involvement with NIWA and ongoing connections with Ngati Kere as a hapū member. Her support and explanations made their experience more enjoyable, even though the scientists were making their own efforts to take into consideration Māori ways of managing Marine resources.

- **Training of Rangatahi**

Undoubtedly a key factor is the collaboration was the advanced dive training provided for the Rangatahi and their subsequent involvement in the surveying.

We got on well with the scientists because I reckon that they noticed that we weren't hanger oners, we were there for a reason and we wanted to get the job done...our purpose was to learn what we needed. (Rangatahi 3)

Recommended improvements

Recommendations to the scientific community for hapū participation were also made by the participants.

- **Timing / availability**

Participants were of the general opinion that more time with the scientists to scope, train more for actual leg-work in the field would be beneficial in terms of not only developing their skills but also to get a fuller picture of the marine resources of the local water. They also acknowledged the fact that local weather conditions hindered several attempts to explore the shore gathering areas and the sea floor.

When we did a bit of research diving up here with NIWA, we had to plan and plan, it went on for months before we could get a dive in – weather wise, it's quite rough and when the sea's right, that's when you have to do it and that makes it hard for people to come in here... (Rangatahi 3)

- **Resourcing / Timing of scientists' visits**

It was highlighted that without adequate resourcing, the best hapū members miss out on participating in these workshops due to other commitments; for example, work. Others are unable to participate unless petrol money in this rural community is squeezed out of very tight budgets.

This is what's making it all so difficult because we all have to work these days. There are many of them that have to work, and have to take time off, and there are so many of things happening in this time of our lives, we all want to be wherever its happening but works got to go on too. Yes, they've got to take a day off work which is meaning that they have to lose a day's pay and the same for petrol and so on. I don't know how to get over that, it gets very costly. (Kuia)

Kuia summarised her thoughts as follows:

Missing out on the best in our hapū since they can't attend scientific workshops and hui because:

1. *they have to work for a living*

2. *can't carry on with task at hand*
3. *someone new comes along*
4. *has to start from scratch*

As a hapū, we're losing two to three years sometimes because of:

- A. *the lack of finance to carry on*
- B. *jobs are threatened due to commitment. (Kuia)*

The dive team concurred that there is a need for greater financial support to be more active in monitoring seabeds through carrying out surveys of the seafloor and to get an accurate representation of current situation,

*NIWA paid for our courses, but we had to take time off work and travel a lot, we could use some funding to help in this way.
(Rangatahi 3)*

Ongoing relationships

All respondents expressed the desire to develop and maintain ongoing interaction with NIWA.

... restocking the resources ... the scientific people there showed the divers and the people involved how rich the areas is, or how poor it is. Perhaps they will come back and show us how to enrich our areas again! Resource areas. A developing area of knowledge within ... (Koroua)

▪ **Impart more skills**

The need has become apparent to both Tangata Whenua and NIWA that the western scientific field techniques imparted in the Kaimoana Monitoring Kit by NIWA now require extending. Data collation and number crunching have been identified as training area by both Ngāti Kere and the NIWA team. Once gathered, the data will require storage and retrieval systems easily managed by the hapū. NIWA has accordingly applied through the Ministry of Fisheries Research Round, 2002 to extend the basic skill base gained.

▪ ***Other environmental projects***

Participants identified several other environmental projects that need attending to and that could also be the focus of collaborations with NIWA and other scientific groups. Through such collaborations the emphasis could be maintained on resource equity and participation. These projects include:

Water quality

Freshwater

Estuarine

Marine

Environment

Erosion / Stabilising land

Pollution

Sediment

Pest control / eradication – e.g. willows

Restoration of waterways: lake, streams, creeks etc.

Kaimoana as near as possible as remembered in childhood; affected by

Other wildlife

Birds, terns etc

Retaining Kaitiakitanga

Access

Enhancement

Marine Lab / Research Centre / Marine Course

Aquaculture



CONCLUSIONS

In this research report we have sought to provide an overview of the working relationship between Ngāti Kere ki Porangahau and NIWA scientists. This relationship was struck and developed out of a need by NIWA to trial a marine field resource kit and involved hui, workshops and the training of Rangatahi.

When asked how the Taha Māori and western science of today might combine, overlap or complement each other, hapū members envisaged evolving relationships. The general theme was one of overall acceptance of western scientific tools being applied to protect and enhance kaimoana species along with their habitat and abate negative factors that impact on the health and habitat of freshwater kai.

Ngāti Kere are now equipped with the basic scientific techniques and are now conducting their own shore-gathering data collection. The dive team awaits direction from the Ngāti Kere Customary Fisheries Committee and or the Taiapure Management Committee. Further skill training is envisaged in data management: hard copies of text and photos, audio and audio-visual tapes and electronic formats. Data collation is well in hand, however hapū members in the rohe of Ngāti Kere have identified further training needs in data collation, data-crunching, data storage, data access and data retrieval.



Small cryptic habitats abound for young juvenile kaimoana species to support recovering

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APPENDIX 1A KAUPAPA MÄORI AS A RESEARCH METHODOLOGY

The context in which this research locates itself is in Kaupapa Māori research methodologies, which as a basis centres Māori and positions Māori at the centre of the discussion and upholds the legitimacy of Māori knowledge. In its widest sense the notion of kaupapa is a philosophy (Jacka, Sutherland, Peters & Smith, 1997):

Māori way of being, infused with ideals and principles which Māori use to make sense of the world.

Using Kaupapa Māori research has been described by Linda Smith (1992) as,

Neither fixed nor rigid. It is open-ended; it is ethical, systematic and accountable. It is scientific, open to existing methodologies, informed and critical. BUT it comes from Tangata Whenua, from whanau, hapū and iwi.

Kaupapa Māori as a design of methodology, and owning interpretive control belongs to Māori and stands up to a sociological analysis of 'knowledge' as it is addressed by Māori

With Māori interests at the centre and with Māori people determining the scope of the issues. Further to this research development may be the use of models that have been expounded by Graham Smith (1990) these include:

Tiaki (Mentor Model), where Māori authorities mentor a researcher;

Whangai (Adoption Model), where the researchers are adopted by the whanau or community and a,

Power Sharing Model in which the community being researched has a greater input into the initiation and the outcomes of the research.

Kaupapa Māori research as defined by Mead, further encapsulates the essence of what constitutes the politics of Kaupapa Māori research, once access is affirmed a further set of principles need to be applied. Mead (1996) presents another set of guidelines to be followed:

- aroha ki te tangata (a respect for people)

- kanohi kitea (the seen face, that is present yourself to people face to face)
- titiro, whakarongo...kōrero (look, listen, speak)
- manaaki ki te tangata (share and host people, be generous)
- kia tupato (be cautious)
- kaua e takahia te mana o te tangata (do not trample over mana of people)
- kaua e mahaki (don't flaunt your knowledge)

The negotiation processes of Kaupapa Māori research are based on a wide range of cultural practices and courtesies. These involve attitudes towards how relationships are created and maintained, they are reciprocal in structure and unassuming as to the outcomes.

APPENDIX 1B NIWA SCIENCE TEAM

NIWA Science Team who visited, interacted, trained and co-hosted the Kaimoana Workshops and Kaimoana Monitoring Kit with the Taiapure O Porangahau Management Committee

Dr Ali MacDiarmid (Project leader) Marine Ecologist

Crayfish, Paua, Kina, Finfish

Data collation, Number crunching

Mr Rob Stewart

Technician Extraordinaire

Dive survey training

Dr Steve O'Shea

Systematics / Taxonomist

Rocky Shore / Reef Platforms

Dr Mal Green

Physical Oceanography

Sediment transport

Dr Simon Thrush

Shellfish community dynamics

Pipi, cockles, toheroa

Ms Laura Karengo

Technician

Mr Steve Mercer

Dive Master

CASE STUDY II



HE KÖRERO MÖ TĪ KOUKA

*A CASE STUDY
OF INTERACTION
BETWEEN TE
RÖPŪ RARANGA
WHATU O
AOTEAROA AND
MANAAKI
WHENUA /
LANDCARE
RESEARCH*

PREPARED BY: SUZANNE PITAMA & MOREHU HENARE

INTRODUCTION

Te Rōpū Raranga Whatu o Aotearoa²¹ (Māori Weavers of New Zealand) and Landcare Research/Maanaki Whenua had engaged in working together to explore the properties and uses of the various types of harakeke, this included examining their individual fibre and strength capabilities. The project planted a number of pa harakeke throughout New Zealand and documented how each variety of harakeke grew in the various regions. As this project came to a close the interest of both parties then turned to Tī Kouka.



Above: Kete-Tī made by Mrs Hazel Walls, Takaka (Simpson, 2000).

In April 2002 a waananga to look at the properties and uses of Tī was jointly funded by both parties, and hosted at Taumutu Marae.²² Te Rōpū Raranga Whatu o Aotearoa extended invitations to those Kairaranga who had worked with Tī Kouka previously, and other Kairaranga who expressed an interest in attending. There were 15 Kairaranga in attendance for the four-day waananga. The four days were jointly planned by the organising parties and included the following activities:²³

- Listening to guest speakers around their research on Tī Kouka.
- Visiting the Christchurch Museum to look at the range of Tī Kouka garments and artefacts that are currently in storage.
- Visiting Lincoln University to:

Tour the plantation of Tī Kouka,

Listen to Scientists discuss their work and findings about the Tī Kouka,

²¹ A sub-committee of Toi Māori Aotearoa.

²² Ngāti Moki Marae, Taumutu.

²³ See the Landcare website for the June 2002 issue of 'He Kōrero Kōrari' which contains a report on this hui.

<http://www.landcareresearch.co.nz/publications/newsletters/flax/index.asp>

- Opportunity to engage in DNA testing.
- Marae based activities including:
- Opportunity to weave with different varieties of Tī Kouka.
- Opportunity to learn from other Kairaranga.

The purpose of this case study is to record the Röpü Raranga perceptions about their interaction with the members of Manaaki Whenua.

METHODOLOGY

The research team comprised one Kairaranga who had participated in the Tī Kouka waananga, and a Māori health researcher. The networks the Kairaranga had with other weavers were an integral part of this research. These relationships facilitated the recruitment of participants for this research project.



Above. Kete-Ti by Mrs Williams, sister of Sir James Carroll. Canterbury Museum, E135.10 (from Simpson, 2000).

Kaupapa Māori

Smith (1999) discusses the merits and integrity in embracing methodological approaches that validate indigenous experiences and work to effectively conceptualise and record Māori knowledge alongside that of Western research. This research approach aims to protect the participants involved and to ensure researchers are highly accountable to them. It is a model that works towards researcher and participant/informant collaboration.

This case study was founded on the merits of Kaupapa Māori research by ensuring the following:

- The aims and objectives of the study were based on principles that value Māori beliefs and experiences.
- All research tools (e.g. questionnaires, consent forms, information sheets, interviewing protocols) allowed the researchers to

maintain integrity and be accountable to the community from which they derived the information.

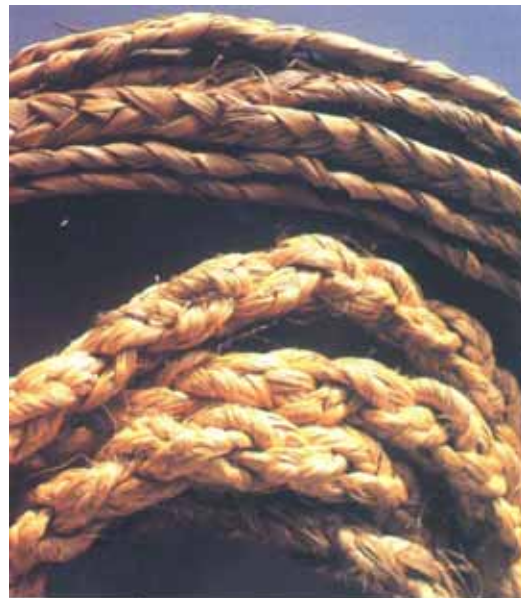
- Appropriate cultural protocols were followed (e.g. whakawhānaungatanga) within interview forums, to build cultural comfort and to provide a safe environment for participants (Cram, 2001).
- The information shared was treated with respect and disseminated to participants to ensure their rights to retract and re-submit information was honoured. This process allowed for joint ownership and accountability between researchers and participants of the research findings and recommendations.
- Appropriate analytical tools have been employed within a kaupapa Māori structure to ensure (a) less contamination in analysis, and (b) that the information works to validate Māori experiences.

The report has been formatted in a way that promotes the experiences of Māori and non-Māori participants, and uses other resources to support these findings.²⁴

The overall findings of the Māori component will be disseminated back to the community from which they came.

Participants

Contact information around the Kairaranga who attended the Tī Kouka waananga was obtained through Toi Māori o



Above: Anchor ropes. Canterbury Museum. (Simpson, 2000)

²⁴ Rather than a literature and resource review driving the analytical framework.

Aotearoa²⁵, as each attendee at the waananga was a registered member with this Rōpū. Details were obtained for all 15 of the Kairaranga who attended the waananga.

Procedure

Each participant identified was telephoned by the research team member (Kairaranga), and invited to take part in documenting their experience of the Ti Kouka wānanga. It was explained that this experience would be recorded as part of a case study and that the case study would, in turn, contribute to a larger overall study undertaken by IRI. All participants were given an information sheet and a consent form and it was agreed that they would each receive (by mail) a copy of the completed case study, as well as a summary of results from the overall study.

Interviews


The logistics in meeting face-to face (given time and travel constraints) were difficult as the potential participants lived all over New Zealand. Participants were therefore invited to be part of an audio-conference focus group or to have an individual phone interview. The research team member (Kairaranga) was also included in the interviews. An interview guide was developed that focussed on individual and group perceptions of their interaction with the scientists from Manaaki Whenua.

The researchers attempted to contact all of the waananga attendees via phone. We acknowledge that one of the attendees has since passed on. Four attendees could not be contacted. Ten of the participants were contacted and seven was interviewed via phone, one was interviewed face-to-face, and two agreed to be interviewed but then were not able to be contacted by phone within the timeframe of this project. However these two attendees had expressed positive interest in the kaupapa of this project.

²⁵ Toi Māori serves as an umbrella structure for the ten national art form committees and their affiliated organisations. It provides advocacy for Māori arts and artists.

Analysis

Information shared was tape-recorded and notes were also taken. The researchers then used thematic analysis to group the main findings and discussion points raised within the interviews. The draft report was then circulated to participants to check the clarity of the themes and conclusions.



RESULTS

The taped interviews and interview notes formed the data for the present study. Common themes were identified within the data, and variation in opinions was noted and then further discussed with the research team member who had attended the waananga. From this discussion further information was provided that assisted in presenting the information in a way that supported the main kaupapa of this case study; that is, to document the interaction of the Röpü Raranga with the scientists of Manaaki Whenua. This results section is therefore presented under the appropriate thematic headings in order to both capture and present the opinions and experiences of the Röpü Raranga in a way that validates their experiences and knowledge.

Initial Contact

The initial pöwhiri at Taumutu marae involved both Kairaranga and scientists being welcomed as one röpü. Kairaranga commented that it took time for a level of comfort between the two parties to develop. They commented that it did not matter how things were arranged, relationships between such different groups always took time.

To rush into whakawhānaungatanga would have been too much for them, they are Pākehā.....it's not what they are used to.....it just had to take time.

It was reported that after two days the Kairaranga felt they had a better understanding of where the scientists were coming from, and felt more comfortable to engage with them.

We were stand-offish at first...didn't know them...end of two days we were yakking...

They came on to our whare and worked in our way, and then we were invited to Lincoln...usually it's the other way round....we go into institutions and it is very foreign.....

The Kairaranga commented on being impressed that on being taken to the campus at Lincoln University they were welcomed with a pöwhiri.

I thought this showed a level of cultural sensitivity...

...it was the proper way...I thought it was well done...

Kaupapa of Group

Some of the Kairaranga thought that the purpose of the hui was to learn how to weave the Ti Kouka, or to share weaving techniques and their knowledge about it. They were not prepared for interaction with scientists nor for the information that was shared by them. Two Kairaranga had previous experience working alongside the scientists on the harakeke project, and expressed their strong understanding of the potential of the partnership between the parties. They were also informed that the hui was about direct interaction between themselves as Kairaranga and the scientists.

It was commented that perhaps hui for the Kairaranga should have preceded this waananga, as an opportunity to scope current Māori knowledge and skill bases. It was thought that the Kairaranga would then have been in a better position to ask the scientists questions that were of interest to them. As it happened they had felt in a position where it was actually only for the scientists to share knowledge and ask questions within the forum.

I don't know if we talked about what the hui was about with the weavers themselves.

Who would the hui benefit?...Māori weavers needed to hui this amongst themselves first...

I needed to know which Ti Kouka was best for kete and raincoats...would have liked to have heard this...but Lincoln don't have it....they are scientific, we are cultural...

The Kairaranga thought that the purpose of the Röpü Raranga might not be at all aligned to the perceived purpose of the interaction of the scientists. This was a concern for them.

Intellectual Knowledge

The Kairaranga expressed appreciation that the scientists had presented their research to the Röpü Raranga.

They are helpful with plantations around the motu...that they experiment with...

The naming of the harakeke, toi and Ti Kouka...

I didn't know that Māori ate the roots of the Ti Kouka, used for medicinal purposes...

The author went through his book.

The whakapapa of the Ti Kouka...

Looked at the diseases which are killing Ti Kouka in the far north...

A Kairaranga discussed how some of the content shared by the scientists was perhaps pitched too much at an academic level. This made it hard to understand the main points they were trying to make.

Too heavy...for the short time to take everything on board...

Pretty well scientific...interesting...but again it could have been done a bit slower....by the time they got to the end, you forget what they said at the beginning...

Some participants commented that the scientists did not ask the Kairaranga about their knowledge of the Ti Kouka, and this led to a lot of the information being presented not being new knowledge to the Kairaranga. This resulted in Kairaranga feeling obligated to be polite and just to listen to the speakers, as well as them feeling frustrated that they were perceived as not knowing anything about the Ti Kouka.

They did a lot of the talking...and X was not given an opportunity to discuss her knowledge...

Found that Pākehā knowledge was way behind Māori Knowledge...the scientific side of it...

I don't think they wanted to learn anything from us...

They were giving us all the flash names for them...but we were more interested in looking at the leaves...to decide which ones would be best for kete, for fishing nets...the names weren't as important as how they might be utilised...

Through questioning I felt they didn't know what they should of known around the use of Ti Kouka that my grandparents taught me...

There was also suspicion around why the scientists were presenting this information to the Kairaranga.

Why are Pākehā's doing this?...Why are they getting funding for this?...

Just give them the bare answers...we get suspicious...

Pākehā researching Māori is different from Māori researching Māori...

X felt that the scientists were overstating the value of their knowledge...

It was noted that Te Rōpū Raranga Whatu o Aotearoa has an agreement with Manaaki Whenua around intellectual property rights. In that, Manaaki Whenua is not able to publish anything without the group's permission. In addition Te Rōpū Raranga Whatu o Aotearoa disseminates any findings through their annual magazine.

Practical Knowledge

The Kairaranga commented on how they enjoyed the DNA testing discussion and that the scientist gave them the opportunity to engage and try out this process. This appealed to them for the following reasons:

- That this scientist had engaged with the Kairaranga on the marae and discussed with them the process of muka that they were participating in.
- That the scientist then used this process of muka as an analogy to explain the role of DNA, what it looked like and how it was extracted.

This analogy appealed to the Kairaranga who all commented on the enjoyment they got out of this presentation.

We were all awake and really interested...he was relating to us...

I couldn't wait to have a go...

The DNA looked like the muka strands...fibres...he kept it simple and broke it down...

Only one [scientist] was interested...with muka...he was right into that...wanted to know ...it looks like this when the DNA is done...

However some Kairaranga also commented that the DNA process was so interesting that they had not caught on to what the DNA was used for and its purpose. Others had understood this process and related it to Whakapapa.

The Kairaranga appreciated the museum visit in that it gave them an opportunity to view traditional taonga that had utilised the Tī Kouka.

I loved the museum...loved having a close up look at how fibre had been manipulated to produce the garments.

...It (the museum) was illuminating!

There was great concern from the Kairaranga around the harvesting of the Tī Kouka. All Kairaranga commented that the Tī Kouka leaves they were given were not all appropriate for weaving and that they had been harvested wrong.

They still need a know a lot about Tī Kouka leaves.... They gave us the outside leaves which are very hard to work with...we don't usually work with these leaves...

They gave us the reject leaves...do you think they meant to?

I thought they knew they were giving us reject leaves...

I wondered why they didn't let us harvest it ourselves...

We don't think he harvested it correctly...was obvious from the bundles ...we got...We couldn't tell him, except politely...not sure if he took it on or not...

Some Kairaranga commented on which leaves should have been harvested, and why. When asked whether they felt they could have discussed this with the scientist concerned they commented that they did not want to offend the scientist, and also that they felt the scientist really wanted to do the harvesting himself. They felt it might be perceived as inappropriate to correct him, so left it, although all agreed he had used the wrong harvesting process.

The leaves were very hard and difficult to work with...

There was a lack of consultation from them with us about which leaves we would see were the best to use...

Some Kairaranga commented that there was an expectation by scientists that the weavers would report back to them on how the different Ti Kouka leaves performed. However the logistics of this could not be put in place at this waananga.

We didn't note which leaves we were using...

There were no clear instructions...

There was no formulated plan for us all to work through.

Whakawhānaungatanga

Kairaranga discussed that they had enjoyed each other's company and would recommend that future waananga are able to involve more time for the Kairaranga to weave and discuss the issues that were arising for them as they worked with the Ti Kouka.

Wasn't the scientific part...but working with the Ti Kouka in our Māori way...

Sharing out different things with each other...

Working with weavers as a group...

We needed another day together...

More time amongst ourselves about it...

Kairaranga also discussed the need for a proper evaluation process at the end of the hui, amongst themselves and then fed back to Maanaki Whenua. This process would have also allowed for Kairaranga to express how they had found the current procedures and itinerary.

We needed a decent poroporoaki to let each other know how we felt about this experience...

For us it's about the same things...for them they're just finding it out...

DISCUSSION

The case study of the interaction between the Kairaranga and Manaaki Whenua demonstrated the depth of interest that the Kairaranga have in the scientific information held about Ti Kouka. The explanations around DNA and the trip to the museum were two examples of information sharing that the Kairaranga both enjoyed and learned from. The Kairaranga also emphasised the long term nature of relationship building. While they were reasonably silent within the wanaanga about the things that they did not enjoy (and this was not helped by the lack of a poroporoaki at the end of the hui), with time and the further building of the collaboration we suspect that good feedback loops and sharing occasions will emerge. It is with this in mind (namely facilitating a closer relationship) that the following two findings are highlighted.

First, the need For Tangata Whenua (röpü/hapü/iwi) to be aware of their needs before engaging with scientists; and second, the need for scientists to be respectful of the knowledge already held by the Kairaranga. Each of these central messages is now discussed.

Weaving with Ti Kouka is a skill that is not as common²⁶ amongst Kairaranga as much as the skill of weaving with other materials such as the harakeke. Because of this there were perceptions that this initial engagement with scientists was more for the scientists benefit than the Kairaranga. There was also concern, because of their perception that the scientists had driven the agenda, and that the Kairaranga were not in a position where they felt they had a united opinion from which to challenge or present questions to the scientists. The proposed solution to this was that the Kairaranga meet first and discuss issues, look at what current weaving skills are available, and then amalgamate this with the knowledge given by traditional taonga (like those held in the marae). It is thought that at this point Kairaranga could debate and trial different techniques and then seek further information through interaction with scientists. It was felt that this would place both parties (Kairarangi and scientists) on equal footing to negotiate the needs and expectations of their particular group.

Secondly the Kairaranga felt that the scientists were nice and that the initial contact processes were positive. However the scientists did not

²⁶ Person Communication with Kairaranga who attended this waananga.

take steps to find out what the Kairaranga's expectations of the waananga were. A fuller needs analysis would have also informed the scientists of what the Kairaranga already knew. This, in turn, may have lead to a more meaningful and in-depth discussion and exchange of information that would have been beneficial for both parties.

In addition the scientists' method of 'presenting' information, as opposed to using other more interactive presentation styles, limited the Kairaranga perceptions that their input and critique would be welcomed and/or accepted. There was a lot of discussion around how there were clearly different Kairaranga views around particular issues, but that the 'clinical' atmosphere (which at times resembled classroom teaching) had created power imbalances that prohibited communication between the two parties.

What can be taken from these two key points is that both Tangata Whenua and scientists need to evaluate their positions in terms of:

- The timing of their interactions (are specific agenda items/questions clear?),
- The type of interaction that would best meet the needs of both parties (do both parties share the same interests? Goals within this area?),
- And that both parties have an initial opportunity to negotiate how the interaction will result in a win-win position for both stakeholders (will both parties get something out of this relationship?).

Once both parties work through these initial points, it is thought that the overall interaction would be even more productive and result in more effective outcomes and findings.

CONCLUSIONS

This case study has been able to provide a clear description of the interaction between the Röpü Raranga and the scientists at Manaaki Whenua. It has used the example of the Tī Kouka waananga as an opportunity to evaluate and identify processes that may be better developed within future interactions for these two parties. However this case study is also able to provide a blueprint to both Tangata Whenua (röpü/hapü/iwi) and scientists around potential strengths and barriers to consider prior to initiating interaction.

CASE STUDY III

MAPPING KAIMOANA





***A CASE STUDY OF INTERACTION BETWEEN
OTARAUA HAPU AND FLETCHER CHALLENGE
ENERGY SCIENTISTS***

PREPARED BY: COLLEEN TUUTA & TOM HUNT

PREFACE

The key informant in the present case study, Mr Tom Hunt, both described and analysed the engagement, process, and outcomes of the Otaraua hapu's interactions with scientists and technologists in the mapping of their *kaimoana* (seafood) beds. In recognition of the depth of Mr Hunt's contribution to the present project a decision was made, in consultation with him, to present the background and 'findings' of this case study largely in his own words. The methodology of the case study is presented as an appendix.

Throughout the next two sections (Background, Experience with Scientists and Technologists) the pages are divided into two columns. In the left-hand column Mr Hunt's narrative is presented with some additional material provided by a second key informant. In the right-hand column the regional researcher, Ms Colleen Tuuta, has taken the opportunity to highlight points and make recommendations according to the following key:

SYMBOL	DESCRIPTION
	Maori cultural value or practice is illustrated.
	Key point is being made.
	Kia tupato! Be careful. This is made as a point that others should be aware of.
	Recommendation(s) stem from this experience.

In addition, summary comments are made in the right-hand column for those readers who want to gain a quick overview of the case study. Further comments from the regional researcher are included as footnotes to Mr Hunt's narrative. Readers are, however, encouraged to

read the narrative initially as a stand-alone document and then follow-up the symbols and footnotes.



Map of Taranaki region²⁷

²⁷ Maps from <http://www.trc.govt.nz/REGION.MAINR.HTM>

BACKGROUND

I would like to take us back to the early parts of 1999 when Fletcher Challenge Energy, in conjunction with a consortium of energy companies, were undertaking oilfield exploration drilling about four and half kilometres off the coast of north Taranaki - adjacent to the rohe of several iwi: Te Atiawa, Ngati Mutunga and Ngati Tama.

During the period that they were drilling they were responsible for a series of spills of hydrocarbon products that they were extracting out of the ground. Oil had been spilled over the side of the jack up rig drilling that they were using. The effect of those spills was hydrocarbon in various forms rolling up on the beaches along our coast. This caused grave concerns among Tangata Whenua as to the effect it would be having on our kaimoana and the environment generally.

Fletcher Challenge were pursued by a number of people, certainly by Otaraua Hapu, and the effects of their activities were objected to forcibly through the media and directly to them. Eventually a Senior Executive of Fletcher Challenge, at the time I believe he was the CEO of Fletcher Challenge Energy, finally agreed to undertake a survey of the kaimoana resources along the coast - from Oratiki to a kilometre or two west of Waitara to Mimi, approximately 22 kilometres east of Waitara.

I believe this happened because Fletcher

The relationship between Tangata Whenua and Fletcher Challenge Energy arose because of a hydrocarbon spill from an oil exploration rig.



Tangata Whenua as kaitiaki (caretakers) of the environment.



Recommendation 1

In any interaction with Tangata Whenua this kaitiaki status should be acknowledged and valued.

The CEO of Fletcher Challenge energy agreed, in a public forum, to undertake a survey of kaimoana.

Challenge undertook to do a survey in a public press conference and so were bound to deliver. I am not persuaded that they were there to demonstrate any commitment to the environment at all, as it was not until their CEO got 'cornered' that he said "Yeah okay, we'll do a Survey." And so here was an opportunity for Fletcher Challenge to fulfil it's commitment to a community.

The TRC (Taranaki Regional Council) became involved because they have a statutory obligation to oversee these things, to actually do this work. They have a need to get along, to develop and maintain relationships with Tangata Whenua. In this particular instance, of the hydrocarbon spills, much of what they had been doing had broken down and floundered. So the survey was an opportunity for TRC to establish, or re-establish, good relationships with Tangata Whenua.

Once a survey was agreed to, a number of hui were held and all of the interested parties were invited to attend. We ended up with three Tangata Whenua groups in attendance: Otaraua Hapu Trust, which is our organisation; Otaraua Management Committee; and Ngati Rahiri. The other participants were representatives of Fletcher Challenge Energy and the Taranaki Regional Council Resource Manager. A number of personnel engaged in the environmental work also had a part to play at various times.

The Taranaki District Council also became involved.



The project began with all stakeholders coming together for a hui.

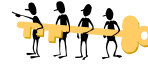


Recommendation 2

The impact of timing and relationship building (e.g. hui) on project timeframes and budgets should be carefully considered.

When Two Worlds Collide

The first hui occurred in October 1999 and by December of the same year the parameters, the scope, and the planning of the survey undertaking had been pretty much completed. An interesting aspect of collaborative relationship between Tangata Whenua and the scientific fraternity was that it was clear from the outset that there were very different requirements in terms of what the survey should consist of, how it would be carried out, what species would be looked at, and how they would be studied.



Early in the relationship differences between the worldviews, and therefore values, of Tangata Whenua and scientists were obvious.

For example: We felt was necessary to establish a value for 'clean water'. But there were two quite different views. One was the 'Maori traditional view' and the other was the 'Western Scientific view' and the difference in those value measurements' was quite striking.

The **Western scientific view** measured the value of water in coliform counts and the presence of bacteria and parasitic organisms. On board one of the oil rigs they had a sewerage treatment system that bombarded all the sewerage produced on that vessel, with a series of ultra violet rays so that at the end of that treatment process there was not a single living organism left in that material. In health terms, in scientific coliform counting terms for example, that material, that substance or liquid could be released into the sea and, in their view, be completely safe – unable to infect anything or cause disease or sickness to people.

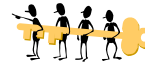
In a Western Scientific view sewerage can be discharged when scientific tests show that it is 'safe'.

For **Maori** the absence of waste, especially human waste, is paramount for the water to be in good shape. The **Tangata Whenua view** was that it was sewerage when it went into that machine and when it came out the other end it was still sewerage. The treatment that it underwent did not change the fact that it started off as human waste, it was still human waste, and therefore still unacceptable in any form. Human waste is human waste.



For Maori, human waste remains human waste after treatment and should not be discharged into water.

What we had suggested should occur is that there be an 'equating' of values. The treatment of the waste is necessary in the pakeha view. Not pouring the waste on to our traditional fishing grounds in any form – we say "No!" – is also absolutely essential. If they want to treat it, we say "go a head, but don't dump it on our fishing grounds." Put it in tanks and bring it back and dispose of it as it has been disposed of.



Relationships are built on an understanding of and respect for each other's values.

In this way our different values are given equality and they do not impose a pakeha value of clean water on us. To get 'equality' they have to understand what our values are.²⁸



Recommendation 3

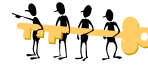
Scientists and technologists wishing to build relationships with Tangata Whenua need to develop an understanding of their worldviews and cultural values.

²⁸ For the scientists a project like this may usually be a small, one-off project that involves coming into the area for a day or two to carry out research with their findings being fed into decision-making processes. Tangata Whenua, on the other hand, have a long-term vision of which such an environmental project is a small but important part.

Clarity Leads to Power

Even at the very early stage, even at the scoping of the whole survey, there was a huge issue of understanding data that was already there.

What came out very strongly was that, for the survey to have any value at all for Tangata Whenua, it had to have clarity. For it to have clarity it had to be provided in a form that people could quickly and easily understand and be able to comment on without any further need for education about what it was that they were looking at or talking about.



Tangata Whenua must be able to engage with scientific data and findings.

The scope of this exercise was to look firstly at all the information that had been gathered in the past on kaimoana resources along this stretch of coast. It turned out that there were many, perhaps as many as 20 studies that had been done in the last 20 years. However the form in which these studies were presented to the community made them almost unintelligible to Tangata Whenua. They consisted mostly of scientific jargon and there was extensive use of Latin nomenclature for the various species in the study. There were many charts, graphs, diagrams that our people were not at all familiar with. They were difficult to interpret unless you had had extensive experience with them.

Often scientific studies are done on environments that Tangata Whenua have kaitiaki responsibilities for and yet they will know nothing about the studies.

Accessing an Intermediary. To overcome the language and communication difficulty presented by those quite complex



Trustworthy intermediaries can be found to

documents we engaged a scientist, an Environmental Scientist by the name of Dr Mike Patrick. He has been engaged in Marine Ecology and studies along this coast for some 30 odd years. He has also worked with Tangata Whenua on a number of occasions and Tangata Whenua had a measure of both confidence in and a familiarity with him.²⁹

translate information into readily understandable forms for Tangata Whenua.

The costs of engaging the intermediary were covered by Fletcher Challenge Energy.



Building Tangata Whenua capability is an important budgetary consideration.

The first job was to take all of those previous reports, condense them and translate them into a form that could be quickly and easily absorbed by Tangata Whenua. When we constructed our study we did not want to reinvent wheels. This exercise turned out to be extremely valuable because, once they were translated into our language, there was a realisation that for all their studies the academics had come up with conclusions in line with Tangata Whenua knowledge. In addition, people do not need degrees or doctorates to figure out that pollution is bad for kaimoana. It does not need the kind of scientific application for them to know most of the reasons why their kaimoana stocks



Tangata Whenua are often very knowledgeable about their local environment. So much so that scientific findings do not add to their knowledge or understanding.

²⁹ The scientist that the Tangata Whenua formed a relationship with was a key component of the project. The intermediary was well-known to the Tangata Whenua so they knew that he could talk their language. The project manager identified the intermediary. The language and understanding that this person brought to the project and passed onto Tangata Whenua was a source of power for them in their interactions with other scientists and agencies. It allowed them to step up to the table, confident that they were on an equal scientific footing with the scientists and able to control the project on their own terms.

have become depleted is because they have been adversely affected by environmental conditions in our area.³⁰

Developing Understandings

The kaupapa deserved all the time that it needed. That the appreciation of values, the recognition, and the respect and equality aspects of the relationship were probably the most important parts of it. It was a hugely educational process in both directions. For us it was about seeing the jargon transformed and made clear. I can't speak for them, but the impression I got was that the scientists realised how, or what and why Maori held quite different views on some issues to them.



Recommendation 4

Time needs to be taken to develop understandings of each others' views and values.

One key difference in the perceived 'relevance' of the study was that Maori appeared to measure 'relevance' by very practical yardsticks. And in the end, kaimoana, while important for many reasons was mostly measured in terms of the Tangata Whenua's ability to put it on the table for manuhiri. If they were not able to do this the situation was bad; if they were able to do this, the situation was good.



The importance of kaimoana, and therefore the relevance of the research, rests on the ability of Tangata Whenua to put kaimoana on the table for manuhiri (visitors).

'Mana' for Tangata Whenua comes from "manaakitanga o nga tangata" on our

³⁰ Overall, this scientific understanding elevated the iwi far above the scientists as they brought with them their cultural understandings and knowledge that the scientists clearly did not have (and could possibly not ever have as they did not live and grow up in the region) . This is something that scientists must come to grips with; that some knowledge will not ever be available to them; that there are restrictions and limitations on them. This situation is not new to Māori; for example, we would never go into another region and assume that we could collect kaimoana. We need to ask.

maraes and things like that; that's our value system.

The research exercise went on to design the survey and for this we engaged the services of the Resource Manager from the Taranaki Regional Council (TRC) who had a significant input into the suggested structure. It did change significantly however, after he submitted it. Tangata whenua had their own ideas on how it should look, what it should consist of and who should do it as well as about some of the cultural sensitivities that had to be observed throughout.



Tino Rangatiratanga was asserted by Tangata Whenua over the form and nature of the survey.

The two TRC Marine Ecologists were present at many of the hui that we had. The aim was that if we had their scientists contributing to the design of the survey then it could not be dismissed at a later date by the TRC without them also dismissing the value of their own people.



The involvement of TRC scientists safeguarded the survey from being invalidated by the TRC.

The surveyors agreed that the species we elected to would be counted in the survey. The Marine Ecologist who carries out these kinds of surveys for a living was given instructions to design a data record sheet that would record that information in a scientifically valid way. So although he designed the record sheet, the parameters of it were stipulated by us.

Tino Rangatiratanga

One of the pre-requisites was that the survey would be carried out by the Tangata Whenua. So although the pakeha organisations contributed some resources and some expertise that we did not have in terms of the academic knowledge and qualifications the practical aspects of the survey were almost entirely carried out by Tangata Whenua.



The survey was almost entirely carried out by Tangata Whenua.

A typical day would start with a briefing in our resource centre on the area that we would be covering, on all the equipment we would need, and all of the safety procedures that had to be observed, etc.

On arrival to the beach the whanau were taught karakia appropriate prior to going on to the beach and then there was kōrero given about the area. Nearby Pa were named, prominent individuals who had lived there were spoken about. Significant events in history were recounted and the tikanga of the people who had lived there and accessed the kaimoana resources were talked about. Other things, such as papakainga, tauranga waka where they used to bring their waka in out, and the likes, were also discussed. And then the teams would be deployed along the reefs along the coast.³¹



The conducting of the survey was set within a cultural context whereby the significance of the area being surveyed was explained before work began.

³¹ The project has explicitly created links between traditional and contemporary knowledge for the benefit of young people and, in turn, for the benefit of the hapu. Young people involved in this project are learning how to exercise their tino rangatiratanga.

Outcomes

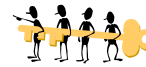
From the **education** point of view, we think that it was an extremely useful exercise for many of our young people who had not previously had a lot of exposure to kaimoana and other things Maori. They were taught karakia, history, how to use sophisticated navigation equipment, how to record information in a scientifically valid way. They learnt a hell of a lot about their kaimoana, about their coast, about themselves and their whakapapa. They learnt how to use computers. How to transfer information from one application to another so as to present it in quite a new way.



Recommendation 5

The involvement of young people in collaborative research has multiple payoffs.

No amount of money could substitute for the value of the experience, the value of the knowledge, the sense of belonging that I have heard many people who were involved say they derived from this exercise. In the end we produced a product that has long term benefits. I have no doubts that those young people will eventually pass on what they learnt or will remember what they learnt for the rest of their lives. That they will pass on much if not all of it to their children. We have used this exercise, the technologies and everything else, to give our youth another window into their Maoritanga, into their identity and into their heritage - the whenua, the moana, the kaimoana te mea, te mea.



The learnings of the young people who have been involved in this research project have been invaluable.

The research project links a traditional resource with a contemporary method of measurement, of presentation, and of storage of information that makes it very relevant to the youth of today. In an attempt to widen that relevance we developed a CD



The project as a whole appealed to youth.

that recorded all of the data (the charts, diagrams and maps) along with a video that was shot of the entire operation, into one multi-media product.

On that CD is extensive footage of kaumatua, kuia, recounting how it was going after kaimoana in their youth. They spoke about when they did it, what indicators they looked for before going to the tide, who made those decisions, where they did it, and what they needed to do and the way they did it. All this is a very useful and interesting record of our tikanga and a tangible link between the “then” and the “now” - which many of our rangatahi had not previously been able to gain exposure to. In terms of developing identity and a sense of ownership or belonging, we felt that that was very beneficial.



A record was created of kaumatua and kuia talking about kaimoana. This helps young people develop a sense of identity and belonging.

An added benefit was that in an area like Waitara with its extreme unemployment problem it provided an **opportunity for whanau** to be exposed to information and communication technologies that they would not otherwise be.



The research created opportunities for whanau to develop an understanding of technology.

The **creation of employment** is the only way that we will ever get out of the economic and social holes that we frequently find our people in. We feel that the IT industry is one industry where many opportunities exist. I would like us to pursue these opportunities much more vigorously because it would allow our people to become involved in a form of employment that does not necessarily require them to go away from their home town or rohe. They could engage in a network for an employer anywhere around the motu or Te Ao perhaps. And we don't have to suffer the



These opportunities in IT and ICT should be pursued as one response to high levels of unemployment within the region.

weakening of our hapu by having the best of brains go elsewhere for work. This [the research relationship] gave us an opportunity to expose them to a basic level of IT and ICT environment.

The other thing that happened from a hapu point view was that it provided the all too rare opportunity for Hapu to exercise their **kaitiakitanga** and **tino rangatiratanga** over this traditional resource.



Tino Rangatiratanga and Kaitiakitanga were exercised by the hapu within this project.

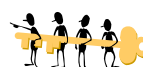
It was very useful in terms of **relationship building** value between us and with organisations that we would have formally been at logger heads with.



The research project helped build and strengthen key relationships.

Future Research

We will be repeating this exercise; not just in respect to kaimoana, because we believe it has relevance for many things. This exercise could be repeated in deep water looking at crayfish, hapuka or whatever. We could take it up the river and look at tuna, piarau and kokopu and any number of species up the river. We could take this concept and apply it to the wetlands, to the streams, to the ngahere. So that's another added benefit of the long term potential of this one exercise. It's being able to take that knowledge, resource, skill, everything that you have learnt from this one exercise; all totally transferable, all totally portable skills and now apply it to any other area of conservation, preservation...Huge, huge.



The knowledge of research and technology that has been acquired can be applied to other hapu projects.

Appendix A Case Study Methodology

The initial contact for the case study was Colleen Tuuta. As a consequence of her work in the community in Taranaki, Colleen knew of a project that had occurred in North Taranaki – involving several iwi in kaimoana surveying. Colleen contacted a hapū member, Tom Hunt, who was involved in this project, explained to him the kaupapa of the present research including the intended outcome of creating some guidelines for scientists and technologists for their interactions with Maori. It was also made clear that there was not any monetary drawcard for the project. (His question was about the advisory group.) On the basis of this interaction he agreed to participate and two interviews were subsequently conducted with him.

The interviews each took two hours and were conducted in Waitara – the first at the offices and the second time at his home. During both visits other information was shared with the interviewer, for example, the CD-rom material developed from the project, videos. The first interview covered the first two questions (what was the issue, and what was the nature of the interaction with scientists and technologists; the second interview covered the second two questions (what worked well, and what did not work well for the community). It was very clear from the start of the project that all material collected during the research would be returned to Tom at the end of the project (e.g. tapes, transcripts, etc.).

The second participant, JK, was not formally part of the survey. Rather, he is someone with immense knowledge about the local environment including the coastline. He was therefore able to counter the knowledge that the scientists were presenting as ‘facts’ with local knowledge, i.e. the ‘truth’. This highlighted the differences between scientific and local knowledge about the environment. He was therefore asked to recount his experiences of these interactions and to talk about the value of Maori knowledge. He participated in one four-hour interview session.

Research process – pōwhiri, cup of tea and catch up, interview, exit graciously with a cup of tea and a talk about other things. This, in itself, is a recommendation for other researchers. If they are not knowledgeable themselves about the local context and/or these Maori processes then scientists and technologists should consider engaging an appropriate local person as an intermediary. The appropriateness of such a local person will undoubtedly change with the nature of the

project and also the community that is being engaged with. This will also facilitate the researchers' understanding of local politics and contexts as well as enhancing the chances that the research will be relevant and useful for local Maori groups – moral and pragmatic.

Koha – the participants were also given a koha from IRI as a thank you for participating in the research project.

Analysis

The wealth of information provided for the present research by both participants led to the decision to present the information from the Project Manager in a narrative form with additional information provided by the second participant. The researcher has therefore inserted headings and some guidelines for the reader into the narrative but the findings are largely given in the participants own words.



OVERALL DISCUSSION

The present research set out to examine three contexts in which Tangata Whenua had had reason to interact with scientists.³² The only criteria for the selection of the contexts for case studies was that they be in different regions of the country and that they involved interactions that Tangata Whenua felt reasonably positive about. From these case studies, the aim was to identify good practice guidelines for scientists and technologists wishing to enter into collaborative relationships with whānau, hapū, Iwi. These recommendations may also prove to be useful to Tangata Whenua as they can provide a benchmark for relationship expectations. Thus, when scientists want to collaborate on research, Tangata Whenua can negotiate on the basis of experiences of other Tangata Whenua groups.

The case studies in the present research were diverse in their methodology and in their write-up. For example, the ease with which the Te Waipounamu researchers were able to call upon (by phone) the Kairaranga for their views of their hui with scientists demonstrated the way the research built upon and depended upon long-standing relationships. This was also seen in the amount of information and knowledge that was shared with the researchers. In Taranaki one main key informant, Tom Hunt, was able to provide a detailed account, including an analysis, of their collaboration and its outcomes. Mr Hunt demonstrated, for this researcher at least, the benefits of being politically astute and having realistic expectations of collaborative relationships. From the start the project the Tino Rangatiratanga of the Tangata Whenua was asserted and maintained.

The discussion of the findings falls into four main sections: Kaitiakitanga, Matauranga Māori, Collaborative Relationships, and Tino Rangatiratanga. Following this is a discussion of future research issues and, finally, an outline of good practice guidelines.

Kaitiakitanga

In terms of rangatiratanga under the Treaty, Māori assert that they were guaranteed the right to exercise ownership over their taonga resources and the decision-making rights on use and protection

³² For ease of reading, we are using the term 'scientist(s)' to refer to those with both scientific and/or technological expertise.

*that flow from ownership.*³³

Māori have practised kaitiakitanga (i.e., guardianship³⁴) for thousands of years and thereby protected the environment for future generations. The purpose behind the practice is to ensure the ongoing existence of the mauri or life force of all things, inanimate or animate. Strict rules or tikanga, including the use of rahui and tapu (restrictions) at appropriate times, help prevent adverse effects on the people and the places.³⁵

The role of Tangata Whenua as kaitiaki was prominent in the present research and underpinned the depth of knowledge of Tangata Whenua about their environment and resources. In other words, in order to protect something you have to know it. In addition, the assertion by indigenous peoples of their tribal rights to full participation in the management of environmental resources is an international phenomenon.³⁶ Tangata Whenua are also the kaitiaki of matauranga Māori (see below).

Matauranga Maori

It was clear from the present research that scientists often enter into relationships with Tangata Whenua with little understanding or appreciation of Tangata Whenua values and knowledge. The Kairaranga, for example, demonstrated amply during the Ti Kouka case study that they had more knowledge than the scientists gave them credit for and, indeed, knowledge that the Pākehā 'experts' were lacking.³⁷ Ngāti Kere kaumatua were also able to reflect on the history of kaimoana abundance (and decline) along their shores and were happy to share their knowledge with NIWA scientists. The Taranaki case study also illustrated that the value of the relationship for Tangata Whenua was not the scientific knowledge, as they knew their coastline very well, but rather the technology that they learned.

³³ *Māori and the patenting of life form inventions* (1999)

³⁴ translation from the Resource Management Act 1991

³⁵ Statement of Evidence of Angeline Greensill in the matter of Application for Approval to Field Test in Containment any Genetically Modified Organism, by AgResearch.

³⁶ see, for example, the Native American Fish & Wildlife Society (NAFWS) website: <http://www.nafws.org>. also Daes (2000).

³⁷ Although this knowledge was explored during the case study as the Kairarangi shared with the researchers, it is not included in this research report as it is not within the brief of the current research to document matauranga Māori.

Toward the end of 1999 IRI researchers set out to explore the issue that existed for Māori in the area of genetic engineering (Cram, Pihama & Philip-Barbara, 2000). The research project that we proposed to Te Puni Kokiri was entitled 'Māori perspectives on genetic engineering' and the project involved both key informant interviews and participant focus groups. One of the key informants interviewed was lawyer Moana Jackson. He outlined critical issues regarding our use of the term 'unique perspective' in the first question on our interview schedule: 'Do Māori have a unique perspective on genetic engineering?' Jackson noted that this term often leads to a belief that Māori understandings are secondary or marginal to 'mainstream' or dominant views:

The word perspective to me is interesting. It assumes that there is something that is a given upon which Māori can be expected to have a valid point of view. The moment you do that you situate the Pākehā model as the truth; and you ask Māori to give a view on it. I think there are Māori truths and they exist independently of what ever Pākehā view as reality or truth and to seek a Māori perspective is to legitimate the Pākehā perspective on the issue. So to ask for a Māori perspective on say the use of land is to validate the Pākehā concepts of property and seek to fit a Māori view of that within it. Whereas what we should begin with is: what is the Māori truth on land and how does that sit alongside, rather than fit within, the Pākehā view? Moana Jackson

Matauranga Māori should not, therefore, be considered as an interesting aside to western scientific knowledge. It must be acknowledged that western scientific knowledge offers just one way of understanding the world and that this way is not the only way. In the preface to the book on fish and fishing in Nez Perce culture (North American Indian tribe), Landeen (1999: ix) writes that "scientists are only now coming to recognize the enormous value and complexity of river systems and the animals and plants that inhabit and depend on them." It is the knowledge of these systems that has allowed indigenous peoples to live in balance with their social and natural environment over many centuries.³⁸

What is perhaps surprising then, and what was found in the present research, is that scientists often fail to acknowledge the significance of tribal knowledge that is held by Tangata Whenua. This includes the

³⁸ *Best practices on indigenous knowledge* (1999)

knowledge an Iwi or hapū will have of a river or coastline that it has inhabited, interacted with and observed for centuries. In this scenario, scientists seem a little like 'Johnny-come-latelies' and it should not be surprising when a brief scientific encounter with the environment does not produce knowledge that is new to Tangata Whenua. If there are to be opportunities for the building of bridges between matauranga Māori and scientific knowledge then these are most likely to arise within the context of long-term collaborative relationships.

Collaborative Relationships

In his report Garth Harmsworth (2001) stresses both the importance of establishing meaningful, collaborative relationships between scientists and Tangata Whenua and the time and resources it takes for these relationships to be built. He also points out that assessment of the success or otherwise of these relationships cannot be done within a purely Western scientific framework. Smith and Franks (1997) add to this, stating that there can not be collaboration unless benefits, accountability, risk and responsibility are also shared.

The Taranaki case study demonstrated the importance of time and resources as Tangata Whenua needed to hui early in the project to ensure that their voice was heard and taken into account in the research. This was not going to be a simple, one-off piece of scientific research – rather it was imperative that the research was responsive to Tangata Whenua concerns and questions. For this to happen there needed to be meetings and enough time for due consideration of the issues. Likewise for Ngāti Kere – there was a need for two-way information sharing prior to surveying.

These two case studies also illustrated the usefulness to Tangata Whenua of an intermediary; in the Taranaki case a scientist known to the Tangata Whenua who could translate the scientific studies that had been conducted along their coastline in the last twenty or so years. The purpose of this translation, into language ordinary people could understand, was not to add to the knowledge or understanding of the Tangata Whenua. The translation by the intermediary demonstrated that the scientific studies added no new knowledge, yet it allowed the Tangata Whenua to come enter into a collaborative relationship with the scientists fully informed about what the latter's disciplines had to say about their coastline and kaimoana.

The scientific intermediary for Ngāti Kere was a scientist who had whakapapa links with the hapū and who walked along side them during the collaboration.

Tino Rangatiratanga

Situated directly from the Treaty of Waitangi, Tino Rangatiratanga is the antithesis of Kawanatanga. The principle of Tino Rangatiratanga, or self-determination, is about having meaningful control over one's own life and cultural well being. In the opening address at the Hui Taumata Matauranga (Māori Education Summit) held in February 2001 in Turangi/Taupo, Mason Durie cited threads of development for Māori in the previous two millenium. He noted also that “during the twenty five years 1975-2000, the focus for Māori shifted from assimilation and state dependency towards greater self sufficiency, a celebration of being Māori, and higher levels of autonomy. The message was tino rangatiratanga and positive development, the agenda moved away from domination by others and to Māori control of Māori resources” (Durie, 2001).

Tino Rangatiratanga was a key principle expressed by Tangata Whenua in the present study. The maintenance of Tino Rangatiratanga within research relationships is imperative to the survival of Māori cultural rights and responsibilities. For example, the exercise of Kaitiakitanga rests on the foundation of Tino Rangatiratanga.

Terms such as ‘collaboration’, ‘consultation’ and ‘partnership’ can all too often conceal important power differentials beneath their egalitarian façade and, for Māori, the lack of Tino Rangatiratanga (cf. Torjman, 1998). According to one US Department of Agriculture representative, consultation can only truly take place when decision-makers meet.³⁹ Likewise, in the Indigenous Research Protection Act⁴⁰ the Principle of Self-Determination “recognizes that indigenous peoples, traditional societies and local communities have a right to self determination.” This Principle goes on to add “that researchers and associated organizations will acknowledge and respect such rights in their dealings with these peoples and their communities.”

³⁹ Personal communication at the 20th Anniversary Native American Fish & Wildlife Society National Conference. April 29 – May 2, 2002. Anchorage, Alaska.

⁴⁰ Protection Act proposed by the Indigenous People's Council Against Biocolonialism: <http://www.ipcb.org>.

In order to ensure the preservation of Tino Rangatiratanga within research relationships, Tangata Whenua can rely on more than the goodwill of scientists. The Indigenous Research Protection Act, for example, includes the use of refundable security bonds, permits, and penalties to ensure that researchers abide by the agreements that they make with indigenous communities.

In summary, the questions proposed by Linda Smith (1999) are relevant when attempting to ascertain the worthiness of research for Tangata Whenua. Scientists would do well to reflect on these questions to both show that they have been reflexive and to begin to demonstrate some understanding of the concerns of Tangata Whenua. The questions are:

- What research do we want to carry out?
- Who is that research for?
- What difference will it make?
- Who will carry out the research?
- How do we want the research to be done?
- How will we know it is a worthwhile piece of research?
- Who will own the research? and
- Who will benefit?

These questions can be addressed through the formation of research collaborations between researchers and Māori communities. And as shown in the present research, these collaborations will need to involve processes of negotiation, testing and trust-building, as well as the sharing of knowledge.

FUTURE RESEARCH

The present research has focussed on identifying best practices among scientists interacting with Tangata Whenua groups. Even though Tangata Whenua groups were chosen on the basis that they reported having had a reasonably positive interaction with scientists, this has generally come about because of the way in which the Tangata Whenua groups have chosen to interact – whether this is by being polite and silent in the face of scientific arrogance or by demanding that scientists engage with them on the terms proscribed by Tangata Whenua.

While it might be tempting to now talk more generally with the scientists and technologists themselves, their views have been documented in other forums along with their advice to their colleagues (e.g. Harmsworth, 2001). Energies would perhaps be better expended identifying those scientists who have been identified by Tangata Whenua groups as user-friendly. As in the Taranaki case study, these scientists may not be research partners as such but rather research intermediaries. Still, there is likely to be value in learning why certain Pākehā scientists are able to build research relationships with Tangata Whenua. From the present study, we strongly suspect that they are differentiated by their respect for Tangata Whenua cultural values and knowledge.

Māori scientists, on the other hand, may be caught in a difficult middle-ground between their scientific discipline and training and their whakapapa linkages and cultural understandings. Future research would do well to consider how these intermediaries are managing and, hopefully, changing their discipline to make it more responsive to Māori concerns.

GOOD PRACTICE GUIDELINES

In order to facilitate productive and collaborative relationships between Tangata Whenua and scientists the following guidelines are proposed. The costs of ensuring that these guidelines are followed needs to be included in research budgets so that the initial stages of meeting and talking with science groups are cost-neutral for Tangata Whenua. These same cost considerations need to also be taken into account whenever Tangata Whenua groups are asked to consult with and/or collaborate with scientific groups.

Tangata Whenua

1. Tangata Whenua (/hapū/iwi) consult as a group to ensure that there is a shared agenda and purpose to initiating collaborative research relationship with scientists.
2. Scientific mediation may be an important component of collaborations and Tangata Whenua should consider building relationships with Māori and non-Māori scientists supplementary to any collaboration.

3. Rangatahi should be involved in collaborative research as this has multiple payoffs.

Scientists

4. Scientists wishing to build relationships with Tangata Whenua need to develop an understanding of their worldviews and cultural values.⁴¹
5. Scientists and technologists need to acknowledge, respect and value the kaitiakitanga roles of Tangata Whenua.
6. The impact of timing and relationship building (e.g. hui) on project timeframes and budgets should be carefully considered.
7. Opportunities for Tangata Whenua to train and upskill should be allowed for within research budgets and timeframes.

Collaboration

8. Scientists should consult with appropriate Tangata Whenua and allow sufficient time for the determination of common research interests and priorities. Time needs to be set aside to develop understandings of each others' views and values.⁴²
9. That scientists take the opportunity to conduct needs analyses alongside Tangata whenua to ensure clear understandings of each groups' needs and expectations of the interaction, as well as current knowledge bases.
10. That both parties engage in specific negotiations prior to interaction that clearly define shared goals and expected outcomes; including how information will be shared and disseminated.
11. That issues around intellectual property are discussed in the initial stages of a research relationship.

⁴¹ The Indigenous Research Protection Act refers to this as 'Cultural sensitivity training'.

⁴² While it may be difficult to decipher who the 'appropriate' Tangata Whenua are, this may well come to light during these initial consultations. In addition, the research guidelines published by the Health Research Council lists those groups that might be the starting points for such initial consultations, e.g., Te Puni Kokiri.

12. That a Memorandum of Understanding (or other significant documentation) be established to protect the rights and responsibilities of both parties.

Underpinning these good practice guidelines there is a call for scientists to also be self-reflective about their own practices and beliefs. Linda Smith (1992) perhaps best sums this up:

All the strategies mentioned are strategies which are used at an individual level and at a structural level. They are strategies which have been used with varying consequences for Maori people. If the deeper issues are not addressed then many of these skills become simply manipulative devices which perpetuate racism rather than destroy it and which maintain present power relations rather than shift them. Underlying any desire to become more culturally sensitive there has to be an understanding that this will be a process of change not just for the target culture but you as well. You being your beliefs, your theories, your practice.

GLOSSARY

Aotearoa	Land of the long white cloud, New Zealand
aroha	compassion
hapū	sub-tribe
hui	conference
iwi	tribe
kaitiaki	guardian
kaitiakitanga	guardian role
kaimoana	seafood
karakia	prayer
kaumatua	elder
kaupapa	ground rules, agenda
kōrero	conversation, dialogue
koroua	male elder
kuia	female elder
mahi	work
mai rano	everlasting
mana	authority
manaakitanga	hospitality
marae	courtyard, forecourt of building
matauranga	knowledge
mauri	life-force
pōwhiri	welcome
raranga	weaving
rohe	domain, designated boundary
Rohe	local area
taha	side
tamariki	children
tangata whenua	people of the land
tangata	person
Tikanga Māori	custom
Tino Rangatiratanga	independence
tipuna/tupuna	ancestor(s)

turangawaewae	home ground, traditional home base
wairua	spirit
whakapapa	geneology
whānau	extended family
whānaungatanga	kinship
whare tupuna/tipuna	meeting house
whare	house



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