FINDING SYNERGISTIC CONSERVATION VALUES?

MĀORI TIKANGA, SCIENCE, RESOURCE MANAGEMENT AND LAW

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ABSTRACT

In this doctorate, I provide a balanced and collaborative approach to knowledge/value change between the contesting worldviews of indigenous knowledge and western science, termed 'synergistic'. My search for synergy is comparative and reconciliatory. This endeavours to overcome the popular pre-occupation with conflict and opposition. Rather, both difference and similarity are recognised. Through the comparison of such synergy, I argue that *Māori* development requires for its further advancement a focus not only on difference and conflict, but also on affinity and convergence.

My primary concern is to establish a better understanding of the synergistic, adaptive strategies or indigenous innovation of *Māori kaitiaki,* environmental stewards. I investigate conflicting and converging *Māori* and western scientific conservation and use values in *Aotearoa/*New Zealand[1] environmental governance and management regimes under the *Resource Management Act 1991,* with specific regard to indicator development. The balance of values were compared in ecological environmental governance, from five *Aotearoa* governmental authorities and three *Māori* river communities, utilising *Māori* and western social science methods. My focus on indicators pinpoints contesting knowledge/value change between the marginalisation of indigenous knowledge and dominance of western science. This seeks to highlight the potential viability of *Māori kaitiakitanga,* stewardship in global and national terms of sustainability.

However, potential synergy is held back by a prevailing viewpoint of the indigenous worldview as backward, past-oriented and non-synergistic. An oppositional dogma predominates, which is a key problem to overcome. It spans world and national literature, resulting in considerable gaps in knowledge on synergy, conceptually, methodologically, empirically and analytically.

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[1] *Aotearoa* is the *Māori* name for New Zealand, which is the non-*Māori* name.

This is addressed by an authoritative *Māori* synergistic standpoint from my own cultural lens and decolonised theorising, termed 'nuanced problem solving'. I articulate both worldviews in knowledge/value change through comparative, evolutionary, multi-dimensional, cross-cultural and inter-disciplinary research on synergy. My nuanced problem solving encapsulates the two main parts of the doctorate, whereby synergy is correlated between theory and social practice. Part one deals with value comparison in theory utilising high abstracted concepts and methods at the global level of environmental governance. Part two deals with value balance in social practice utilising medium abstracted and concrete empirical and analytical research at global, national, regional, district and cross-tribal levels of environmental governance. Potential synergy cross-cuts each part from high abstracted thought down and from the practical flax roots up. I argue that *Māori* advancement fluctuates between them.

Drawing on cultural and theoretical leanings of the *Māori* synergistic standpoint, both a strong correlation with existing theory and expanded synergistic theorising was found. Due to the expansiveness of the research, these correlated findings only provide an embryonic understanding of potential synergy.

A postscript describes my other work on synergy with five external agencies concerning foreshore, lakeside, wastewater, land disposal and carbon marketing *kaitiakitanga*. I argue that additional research on synergy is needed in order to further advance *Māori*.

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GLOSSARY OF *MĀORI* TERMS[2]

A

Aotearoa	New Zealand
aroha	love
arohatanga	loving

H

hapu	sub-tribe
he mihi	a greeting
he moe tapu	a sacred vision or prophecy
hīkoi	trip, journey
hui	meeting, gathering

I

Io	*Māori* supreme god
iwi	tribe

K

kai	food
kaitiaki	guardian, caretaker
kaitiakitanga	*Māori* stewardship of nature
karakia	prayer
kaumātua	male elder or leader
Kaupapa Māori	*Māori* driven or pro-*Māori*
koha	gift
kotahitanga	unity
kuia	woman elder

M

māmā	mother
manaaki	care for, respect
Māori	native or first people of *Aotearoa*
marae	meeting area and buildings
mātauranga te ao tūroa	*Māori* environmental knowledge
matua	man, male
mauri	essential life force or spiritual essence
mokopuna	grandchildren

N

ngā tikanga tūpato	*Māori* conservation and use values
ngā wairua kaitiaki ō ngā awa	river spiritual guardians

P

pāpā	father

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[2] In this study, I use simple or universal definitions of *Māori* terms. My key readings include: Ryan (1995) and Williams (1991).

R

rangatira	chief
rangatiratanga	authority
Rangiatea	heaven
rohe	territory

T

tangi	funeral
taonga	treasure
te ahi kā	home people
te ao	world
te ao Māori	*Māori* world paradigm
te ao tūroa	environmental world
Te Ika a Maui	North Island of *Aotearoa*
te taha wairua	spiritual side
te tīmata	beginning
tikanga	custom
tipuna	ancestor
tohunga	priest

U

utu utu	reciprocation

W

wāhi tapu	sacred place
wahine	woman
wai	water
waiata	song
wairua	spiritual dimension
wairua kaitiaki	spiritual guardian
waka	canoe
whakapapa	genealogy
whakatāukī	proverb
whakawhānaungātanga	family interconnections
whānau	family
whenua	land

GLOSSARY OF THEORETICAL ACRONYMS

Acronym	*Definition*	*Meaning*
c C	*conservation*	conservation theory-category
CoG	*conservation over growth*	conservation over growth theory-category
CvG	*conservation versus growth*	conservation versus growth theory-category
CIR	*collective institutional reflexivity*	representative or collective case examples of the reflexive practice of inter-governmental institutional environmental governance
CCR	*collective cross-tribal reflexivity*	representative or collective case examples of the reflexive practice of cross-tribal local river *kaitiakitanga*
d De	*detraditionalisation*	use and non-use of tradition in the reflexive re-construction of identity and values
DMR	*diverse/multi-reflexivity*	specific case examples of the reflexive practice of socio-cultural consolidation
DP	*distinguishing point*	contemporary location in late-modernity
e EM	*environmental monitoring*	environmental observation or surveillance
EPI	*environmental performance indicator*	environmental measures or parameters

ACRONYMS (continued)

Acronym	Definition	Meaning
ER	*experiential reflexivity*	one's own apprenticeship of *Māori* reflexivity
EW	*Environment Waikato*	regional environmental authority case study
g *G*	*globalisation*	macro multi-dimensional change
GoV	*growth over conservation*	growth over conservation theory-category
GvC	*growth versus conservation*	growth versus conservation theory-category
Gr	*growth*	growth theory-category
h HCS	*Harataunga river community case study*	*Māori* river community case study
i IL	*Iwi Liaison Officer*	research participant of the environmental authority case studies
IK	*indigenous knowledge*	generic term for *te ao Māori*
m M	*materialism*	materialism theory-category
MCS	*Māori river community case study*	*Māori* river community case study of cross-tribal local river *kaitiakitanga*
MfE	*Ministry for the Environment*	national environmental authority case study

ACRONYMS (continued)

Acronym	*Definition*	*Meaning*
MR	*multi-reflexivity*	specific case examples of the reflexive practice of institutional consolidation
MRU	*Māori river users*	*Māori kaitiaki* of cross-tribal local river *kaitiakitanga*
n NSRU	*non-specific river user*	general river user of local river inter-tribal *kaitiakitanga*
o OCS	*Oparau river community case study*	*Māori* river community case study
ODC	*Otorohanga District Council*	district environmental authority case study
p P	*environmental planner*	research participant of the environmental authority case studies
PG	*post-materialist green*	post-materialist green theory-category
PM	*environmental policy maker*	research participant of the environmental authority case studies
PRU	*Pākehā river user*	*Pākehā* river user of cross-tribal river *kaitiakitanga*
r R	*reflexivity*	main attribute of change, based on the active re-invention and adaptation of self-identity
REA	*reversed epistemological association*	reflexive co-optation of western science

ACRONYMS (continued)

Acronym	*Definition*	*Meaning*
RM	*reflexive modernisation*	contemporary change process
RMA 1991	*Resource Management Act 1991*	*Aotearoa* environmental legislation
s SDP	*sustainable development paradigm*	sustainability world paradigm
SRU	*specific river user*	specific river user of cross-tribal local river *kaitiakitanga*
t TCDC	*Thames-Coromandel District Council*	district environmental authority case study
TDC	*Taupō District Council*	district environmental authority case study
w WCS	*Waitahanui river community case study*	*Māori* river community case study
WIO	*Westphalia international order*	vertical international environmental governance and management
WKS	*Westminster-Keynesian system*	vertical *Aotearoa* (national) environmental governance and management
WSK	*western scientific knowledge*	official discourse

GLOSSARY OF THEORETICAL CONCEPTS

Concept	*Definition*
a *accumulated detraditionalisation*	transitional processes of detraditionalisation between primary and reversed vertical individualisation
And/Also	theoretical analysis of the subtleties of nuanced reality
And/Or, Either/Or	oppositional theorising of nuanced reality
Aotearoa hierarchical organised irresponsibility	total medium abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on inter-governmental institutional environmental governance at the distinguishing point in the five environmental authority case studies
Aotearoa hierarchical reflexive modernisation	total high abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on inter-governmental institutional environmental governance at the distinguishing point in the five environmental authority case studies
Aotearoa hierarchical relations of definition	*Aotearoa* hierarchical reflexive modernisation processes of the relations of definition and late-modern synergy
Aotearoa hierarchical relations of production	*Aotearoa* hierarchical reflexive modernisation processes of the relations of production and late-modern synergy
Aotearoa local reflexive modernisation	total high abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on cross-tribal local river *kaitiakitanga* at the distinguishing point in the three *Māori* river community case studies

CONCEPTS (continued)

Concept	*Definition*
Aotearoa local relations of definition	*Aotearoa* local reflexive modernisation processes of the relations of definition and late-modern synergy
Aotearoa local relations of production	*Aotearoa* local reflexive modernisation processes of the relations of production and late-modern synergy
Aotearoa local social explosiveness of hazard	total medium abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on cross-tribal local river *kaitiakitanga* at the distinguishing point in the three *Māori* river community case studies
apprenticeshiping	one's trials and tribulations of life's learning lessons
autopoesis	process of reflexive change
c *cohesion*	the positive side or pros of experiential reflexivity
collective *cross-tribal reflexivity*	representative or collective case examples of the reflexive practice of socio-cultural consolidation
collective diversity	*Māori* reflexive strategies of late-modernity between the *waka* and *iwi Māori* people groups of wider *Māori* society
collective institutional reflexivity	representative or collective case examples of the reflexive practice of institutional consolidation
consolidated verticality	reflexive reconstruction of vertical epistemology
counter-hegemonic movement	reflexive processes of conservation over growth
counter-hegemony	oppressed ideology

CONCEPTS (continued)

Concept	Definition
cross-tribal local river kaitiakitanga	cross-sectional representation of the reflexive reconstruction of river *kaitiaki* identity and values in the *Māori* river community case studies
cultural survival/loss value spectrum of ngā tikanga tūpato	socio-cultural late-modern value categories of the detraditionalisation of *ngā tikanga tūpato*
- normative ngā tikanga tūpato (cultural survival value pole) *- re-normative ngā tikanga tūpato* *- de-normative ngā tikanga tūpato (cultural loss value pole)* *- non-normative ngā tikanga tūpato* *- un-normative ngā tikanga tūpato*	- epistemological 'home-base' of the *te ao Māori* stronghold - strong alignment and connection to the *te ao Māori* stronghold - decreasing alignment and connection - very little alignment and connection - no alignment or connection
d *detraditionalisation*	use and non/use of tradition in the reflexive re-construction of identity and values
difference/distinction discourse	opposing epistemological power relations
discourse	epistemological power relations underpinning knowledge/value change
diverse/multi-reflexivity	specific case examples of the reflexive practice of socio-cultural consolidation
dysfunction	the negative side or cons of experiential reflexivity
e *epochal change analysis*	diagnosis and prescription of periodic change
epochal contours	multi-dimensional shape of change
experiential reflexivity	one's own apprenticeship of *Māori* reflexivity

CONCEPTS (continued)

Concept	Definition
f *fluidity*	reflexive negotiation of the use and non-use of tradition in detraditionalisation
g *globalisation*	macro multi-dimensional change
h *hegemony*	dominant ideology
hierarchy	vertical institutional framework
hierarchy and multiple model connection	model of cross-cutting verticality and multiplicity
hierarchical informational reflexivity	vertical inter-governmental information reflexivity
hierarchical official and non-official discourse distinction	vertical inter-governmental official and non-official discourse distinction
hierarchical vertical governance	vertical inter-governmental governance structure
holistic relations	defining term for the non-modern epochal change context
i *informational reflexivity*	accommodation process of knowledge/value change
institutional consolidation	reflexive reconstruction of consolidated verticality by the environmental worker reflexive self
inter-governmental institutional environmental governance	cross-sectional representation of the reflexive reconstruction of environmental worker identity and values in the environmental authority case studies
k *Kaupapa Māori-And/Also*	counter-hegemonic stance of *Kaupapa Māori* research
Kaupapa Māori-And/Or	oppositional stance of *Kaupapa Māori* research

CONCEPTS (continued)

Concept	Definition
Kaupapa Māori research	leading *Māori* research approach of *Aotearoa* social science research
l *late-modernity*	contemporary time period
local official and non-official discourse distinction	vertical cross-tribal official and non-official discourse distinction
local informational reflexivity	vertical cross-tribal informational reflexivity
local vertical governance	vertical cross-tribal governance structure
m *Māori reflexivity*	*Māori* people's reflexive adaptation to change, based on the re-invention of *Māori* identity
Māori reflexive stance	And/Also standpoint on *Māori* reflexivity
Māori theorising	*Māori* reflexive stance on theory *('side a')* and reality *('side b')*
modern	period of enlightenment
modernisation	modern change process
modernity	basic sociological conceptual framework of change
mono-cultural	dominant culture
multiple apprenticeships	personal and *whānau* trials and tribulations of life learning
multiple modernities	non-western viewpoint of modernity
multiplicity	non-official discourse
multi-reflexivity	specific case examples of the reflexive practice of institutional consolidation
multiple sustainability model	counter-hegemonic, conservation oriented model of sustainability

CONCEPTS (continued)

Concept	*Definition*
n *ngā tikanga tūpato*	*Māori* conservation and use values
non-modern	non-western world
non-modernity	pre-enlightenment era
non-official discourse	non-scientific, alternative worldviews
nuanced problem solving	theoretical stance of And/Also
nuanced reality	reflexive practice of And/Also
o *official and non-official discourse distinction*	vertical epistemological framework
official discourse	dominant western scientific knowledge/values
p *paradigm*	dominant worldview or epistemology
performance	conservation oriented viewpoint of the environment
performativity	growth oriented viewpoint of the environment
primary vertical individualisation	primary evolutionary stage of *Māori* land alienation and the co-optation of vertical epistemology
r *reflexivity*	main attribute of change, based on the active reinvention and adaptation of self-identity
re-matching	hegemonic accommodation of the other, whereby non-official status is retained
reversed epistemological association	reflexive co-optation of western science
reversed vertical individualisation	secondary evolutionary stage of *Māori* land alienation and the co-optation of vertical epistemology

CONCEPTS (continued)

Concept	*Definition*
risk society	contemporary period of risk
s *similarity/difference discourse*	converging epistemologies
simple modernisation	modern change process
socio-cultural consolidation	reflexive reconstruction of consolidated verticality by the *Māori* river user reflexive self
specific diversity	*Māori* reflexive strategies of late-modernity between the *waka* and *iwi* *Māori* people groups of wider *Māori* society
supremacy	hegemonic superiority
synergy	nuanced reality of the affinity and difference of values
synergistic value change	reflexive processes of synergy at the interface of knowledge/value change
t *te ao Māori*	*Māori* world paradigm
te ao Māori stronghold	adaptive strength of *Māori* reflexivity
technological authoritarianism	vertical authority of informational reflexivity
tradition	basic sociological conceptual framework of the past
v *vertical governance*	vertical epistemological connection of Westphalia international order and Westminster-Keynesian system
vertical individualisation: *- primary & reversed*	two stage evolution of *Māori* land alienation
verticality	official discourse
vertical sustainability model	hegemonic, growth oriented model of sustainability

CONCEPTS (continued)

Concept	*Definition*
w *whakawhānaungātanga* *(three main levels)*	multiple inter-connections of detraditionalisation
- prior whakawhānaungātanga *(level one)* *- immediate whakawhānaungātanga* *(level two)* *- consolidated whakawhānaungātanga* *(level three)*	- benchmarking of one's engagement of detraditionalisation - immediate engagement of detraditionalisation - engagement of the cohesive and dysfunctional processes of detraditionalisation

PREFACE

Te Tīmata (The Beginning)[3]

A fellow student recently asked me why I chose to study for my doctoral research the three *Aotearoa/*New Zealand river communities[4] of *Waitahanui,*[5] *Oparau*[6] and *Harataunga.*[7] I told him that I initially had *he moe tapu*, a sacred vision,[8] which spiritually prophesised and sanctioned my research on these three rivers with which I am connected through *whakapapa*, *Māori* genealogy or kinship links. From that point, I said, I just knew they were the 'right' rivers for me to study.

I begin my story about the journey I have taken with the spiritual blessing that came at the start of it. I interpret my dream or vision as an endorsement from *te taha wairua,* which is the spiritual realm of the 'correct' passage travelled. To me, it says that I was given 'the okay' to undertake this journey.

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[3] As *Māori* researcher, it is culturally appropriate to initially ground one's place in the living and non-living worlds. My spiritual kinship affiliation to the three rivers is identified. I then briefly introduce how *Māori tikanga* was applied to obtain the *Māori* spiritual sanctioning of the research. For further details see Glossary of *Māori* terms.

[4] In this research, the three rivers are conceived by reference to the term '*Māori* river community case studies'. For further details see Glossaries of acronyms and concepts.

[5] My *Ngāti Tuwharetoa* affiliated river, located 11km south of *Taupō* in the *Waitahanui* township; that being, a trout fishery. For further details see *Chapter 1 (Figure 1.1)* and *Chapter 3 (Figure 3.1).*

[6] My *Ngāti Hikairo* affiliated river, located in *Oparau* township and flowing from *Pirongia* Mountain to the *Kāwhia* harbour; that being, an inland river. For further details see *Chapter 1 (Figure 1.1)* and *Chapter 3 (Figure 3.2).*

[7] My *Ngāti Porou* affiliated river, located in *Harataunga* (Kennedy Bay), 12km east of Coromandel; that being, a coastal river. For further details see *Chapter 1 (Figure 1.1)* and *Chapter 3 (Figure 3.3).*

[8] In my *Māori* upbringing, *Māori* spiritual experiences such as sacred dreams, prophecies and premonitions were considered a normal part of the social construction of *te ao Māori,* our *Māori* way of knowing. According to my *Ngāti Hikairo tipuna, Māori* spiritual gifts are passed through the senior female aristocracy line of our *whānau.* My mother is the eldest in her family and backwards through the generations these sacred gifts have flowed down through to her (for example, her mother was the eldest daughter of the *whānau).* I am the eldest female in my family, so these spiritual gifts are seen to come to me as passed from my mother. For further details see *Chapter 3* and *Appendices 3.2 - 3.4.*

Wairua (Spirituality)

From my *wahine Māori, Māori* women's point of view, it is very important to first bring forth *te taha wairua,* the spiritual realm. Before further elaboration of the story, I ask for protection, endorsement and sanctioning from *te taha wairua*, through the following protective *karakia,* prayer:[9]

E tō mātou Mātua i te rangi (Our Father which art in heaven),
Kia tapu tōu ingoa (Hallowed be thy name),
Kia tae mai tōu rangatiratanga (Thy kingdom come),
Kia meatia tau e pai ai (Thy will be done),
ki runga ki te whenua (On earth as it is in heaven),
kia rite anō ki to te rangi,
Homai ki a mātou āianei (Give us this day our daily bread),
he taro ma mātou mo tēnei ra,
Murua o mātou hara (and forgive us our trespasses),
Me mātou hoki e muru nei (as we forgive those who trespass against us),
I o te hunga e hara ana ki a mātou (Lead us not into temptation),
Aua hoki mātou e kawea kia whakawaia (But deliver us from evil),
Engari whakaorangia mātou i te kino,
Nōu hoki te rangatiratanga, te kaha, me te kororia (For thine is the kingdom, the power and the glory),
Ake, ake, ake (For ever and ever),
Āmine (Amen).

In my viewpoint, a protective, spiritual veil is brought forward to pave the way throughout this *Māori* story telling. The practice and application of *Māori* spirituality was fundamental to my conduct as *Māori* researcher,[10] with specific reference to *ngā wairua kaitiaki o ngā awa,* the river spiritual guardians of the study. In *Chapter 3,* on methodology, I elaborate on my use of *Māori* spirituality in the research.

Therefore, to me, such spiritual sanctioning of the research provides the essential starting point from which this story is told.

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[9]   In this research, *Māori* spirituality is adapted for the purpose of cross-cultural use (Metge, 2005). Thus, a western European prayer is translated into the *Māori* language for my research purposes here.

[10]   The practice of *Māori* spirituality was most central to my employment of the *Māori* methods in the study. For further details see *Chapter 3.*

He Mihi[11] (Introductory Greeting)[12]

Ko Katarina Heramoana Haimona ahau. (My name is *Katarina Heramoana* Simon). *Nō Ngāti Tuwharetoa, Ngāti Hikairo (Waikato) me Ngāti Porou.* (I am of *Ngāti Tuwharetoa, Ngāti Hikairo (Waikato)* and *Ngāti Porou* descent).

Tuatahi, e mihi ana ahau ki tō tātou kaihanga, nā te mea ko ia te tīmatanga me te whakamutunga o ngā mea katoa, kāti. (First and foremost, salutations to the creator, the beginning and end of all life in this changing world).

Tuarua, e mihi hoki ahau ki tō tātou Arikinui - Te Atarangikaahu e noho mai i te Ahurewa Tapu o ōna mātua tipuna. (Second, I pay homage to *Te Arikinui - Te Atarangikaahu,* on whose ancestral land the University of *Waikato* rests).

Tuatoru, ki ngā tini aituā, ki ngā mate o i ā mārae, o i ā mārae huri noa i te motu. Haere kōutou, whakawhiti atu rā! (Third, to the many *Māori* who have passed on to the ancestral world from their respective marae, go forth to the resting place of your ancestors).

Tuawha, e mihi āna ahau kia kōutou ngā tangata katoa i tēnei rā. (Fourth, greetings to all the readers of this thesis).

Tēnā kōutou, tēnā kōutou, tēnā kōutou katoa. (Greetings and salutations to you all).

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[11] I am very thankful to Mr *Hikitai* Green (*Kaumatua* of Hamilton East School) for his kind assistance with the *Māori* and English translations of the introductory greeting in the study.

[12] According to *Māori tikanga,* custom, it is also culturally appropriate to commence with traditional *Māori* greetings and acknowledgements. For the purpose of 'opening' the reading of this thesis, I use the following salutation order.
- First, I introduce my *Māori* identity as *Māori* researcher through the identification of tribal affiliation.
- I then greet and acknowledge *Io*, the *Māori* supreme being or creator of *te ao,* the world.
- Next, I acknowledge the *Māori* Queen - the highest ranked *Māori* leader of the area in which the University of *Waikato* is situated.
- It is then culturally appropriate to mention our *tipuna,* ancestors who hold sacred place in the living and non-living worlds.
- Lastly, I greet and acknowledge (prospective) readers of the thesis.

***The search for synergy and kaitiakitanga, stewardship -
my spiritual destiny***

According to my own *Māori* spirituality, I was destined to empower the *Māori kaitiaki,* stewards of the three rivers through the search for synergy in the study. As *he moe tapu* enlightened me, our *tipuna,* ancestors practiced *kaitiakitanga*, stewardship, quite synergistically. Yet, to date, these synergistic or adaptive strategies of *Māori kaitiaki* remain largely un-realised. To me, it was my spiritual destiny to address this problem by researching synergy, as practiced in *kaitiakitanga* by our *tipuna*.

The synergistic research model of the thesis - empowering Māori kaitiaki

In the search for synergy, I sought to empower *Māori kaitiaki* through providing a better realisation of the synergistic potential of *kaitiakitanga*. This is articulated in the synergistic research model of the thesis.

In *Parts 1 and 2* of the thesis, synergy is theoretically developed at four levels of the research; that being,

    i.   conceptually *(Part 1),*

    ii.   methodologically *(Part 1),*

    iii.   empirically *(Part 2),* and

    iv.   analytically *(Part 2).*

Furthermore, a postscript demonstrates the theoretical application of the synergistic research model by agencies external to the thesis *(Appendix 9.1)*.

Acknowledging ngā wairua kaitiaki of the study

In the study (and beyond), I acknowledge that the search for synergy is guided, supported and endorsed by *whānau,* family affiliated *ngā wairua kaitiaki,* spiritual guardians or carers of earth. Accordingly, a synergistic research model is put forward with vital regard for the spiritual integrity and depth that such academic references to *kaitiakitanga* hold for our people. Moreover, I acknowledge that synergy was developed and applied in accordance to the lore of our *wairua kaitiaki*; that is, with the best or highest of intent, for the well-being of earth and all living and non-living things.

ACKNOWLEDGEMENTS

Lessons and learning - apprenticeshiping

My doctoral journey entailed great lessons and learning of both hardship and fortune - termed 'apprenticeshiping',[13] that tested my survival abilities at every level of existence. This apprenticeshiping relates to adaptive strategies to change *(Chapter 1)*, while co-opting one's multiple identities in *Māori* reflexivity *(Glossary Bii)*. From my *Māori wahine,* woman viewpoint, such an apprenticeship is considered to be essential for learning and growth. To me, I was continually 'apprenticed' for the reason of valuable lessons needing to be learnt. Considering the severity[14] of some of the lessons/learning, I obviously need(ed) to take heed of what was learnt. For this 'hard' learning and growth, I am eternally grateful and appreciative.

Apprenticeshiping involves the utilisation of the pros and cons of both my own life apprenticeship and those of the *Māori* and non-*Māori* mentors in the study (*Chapter 3)*. Consequently, both the positive and negative sides of these apprenticeships are given due acknowledgement and recognition here.

Wairua, whakapapa, and *whānau*

Wairua, spirituality, *whakapapa,* genealogy and *whānau*, family are the cornerstones of my spiritual kinship relationship, which requires much recognition here. Foremost, I would like to acknowledge and sincerely thank my *pāpā*, father (*wairua kaitiaki,* spiritual guardian) and *māmā,* mother (living *kaitiaki,* guardian) for enabling the genealogical link to the three *Māori* river communities of the study. For it is only through them, that I have the privilege of such a *Māori* cultural background, as kinship affiliated *Māori* researcher.

I also acknowledge and give thanks to *ngā wairua kaitiaki ō ngā awa (Chapter 3)* for their spiritual endorsement, guidance and protection. As sacred

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[13] In this research, 'apprenticeshiping' is articulated as a *Māori* method. For further details see *Chapter 3.*

[14] Several serious episodes of personal safety (sexual, physical and family) were compromised during the *Māori* fieldwork phase of the research. The toll it has taken on my doctoral progress is briefly acknowledged here, but not further discussed. I later expand on my reflexive engagement with such dysfunction in the *Māori* methods of the study. For further details see *Chapter 3.*

guardians of *te ao tūroa,* the environment, I am indebted to their spiritual guardianship roles. I acknowledge my attempt to draw on this spiritual wisdom that was a guiding force throughout the research.

I also extend great appreciation and thanks to the three *Māori* river communities of the research. To those of my immediate and extended *whānau* - a sincere acknowledgement and thanks for the *whakawhānaungātanga,* family help, guidance and support. This was most crucial, as I was unfamiliar with much of the *Māori* fieldwork terrain.

The *whānau* relationships were also helpful for making research connections and networks. I acknowledge my attempts to associate with *te ahi kā,* the *Māori* home people through these *whānau* links in my endeavours as *Māori* researcher. Your enduring *Māori* apprenticeships (that I tried to link with as *whānau*) are duly acknowledged and appreciated.

Academic supervision and advice

Without doubt, I could not have progressed without the academic expertise, guidance and support of my doctoral supervision panelists - Doctor Peter Urich (chief supervisor), Professor Paul Havemann, Professor Russell Bishop and Professor Neil Ericksen; and their various colleagues of the University of *Waikato* - Professor Barry Barton, Professor Richard Bedford, Professor Janet Bornman, Doctor Winifred Crombie, Doctor Neil Haigh, Doctor Alexander Gillespie, Doctor *Tamati* Reedy, Doctor John. F. Smith and Doctor *Aroha* Yates-Smith.

I pay homage to you all. Thank you so much for the hours of time and effort you have put into advancing this work. Your academic help and guidance is very much appreciated and acknowledged.

A special note of acknowledgement and tribute to my four doctoral supervisors. I was very fortunate to have had your academic support and assistance. Thank you for persevering with the supervision. It will always be cherished.

Financial assistance

Like most doctoral candidates, I have encountered the trials and tribulations of funding applications in support of the research. Thankfully, I was extremely fortunate to be awarded adequate funding. Beforehand, however, I do acknowledge and give thanks for the disappointments as they provided valuable life learning and growth.

A list of my research funding sources, are briefly outlined in *Appendix i.i.* They are all acknowledged and appreciated. In particular, my sincere thanks to *Ngā Pae o te Māramatanga* and *Tuwharetoa* Genesis Group for providing funds near the end of my studies. Without this financial assistance, my research journey would have been agonisingly prolonged.

Funding was fundamental for my research related expenses. As a single parent of three boys, it provided very much needed financial assistance for childcare and other support needs. On behalf of my sons and I, we are so grateful - our sincere thanks and appreciation. For further details of the research related spending in the study see *Chapter 3*.

Other acknowledgements

I was very fortunate that the research participants of the *Waitahanui, Oparau* and *Harataunga* river community case studies and the Ministry for the Environment, Environment *Waikato, Taupō* District Council, Thames-Coromandel District Council and *Otorohanga* District Council were so accommodating and helpful. I am indebted to you all. Thank you very much for your welcome and hospitality. Several people whom passed during the doctorate (Mrs Hilda Blake, Ms Sarah Chapman, Mrs *Tai Maika*, Mr George Mcleod, Mr George *Potae,* Mr Leslie Wall, and Mr *Parekura* White) are also acknowledged and will always be remembered for their generous contributions as key informants of the study.

I am very grateful and appreciative for the administrative services and support of the University of *Waikato.* To where I academically reside at the International Global Change Institute - my sincere thanks to Louise Armstrong,

Matthew Dooley, Cheryl Garland, Claire Gibson, , Wanda Ieremia-Allan, Liza Koshy and Peter Kouwenhoven for their administrative help. In particular, a huge token of appreciation to Claire and Wanda for the hours of time and effort spent on thesis proofing, editing and graphic work. I also acknowledge and give thanks to The Schools of *Māori* and Pacific Development (and the administrative staff - Helen de Barry and Kiri Bramley), Law (and the administrative staff - Raewyn Boyd and Kathryn Marr), Education (and the administrative staff - Doctor Wendy Drewery and Bev Price) and Science (and the administrative staff - Marian Holdaway) of *Waikato* University for providing academic homes and related administrative services during the doctorate.

My sincere acknowledgement and praise to the *whānau* of staff (Cheryl, Dick, Gary, Janet, Matthew, Maxine, Sarah, Wayne, Wei, Xianfu and Yingpeng) and students (Aly, Ampi, Chandran, Clare, Greg, Helen, Jane, Liza, Nathan, Pene, Sennye, Vicky and Wendy) at the International Global Change Institute, University of *Waikato.* I was very fortunate to partake in the *whakawhanāungātanga, arohatanga,* caring and *kotahitanga,* unity of this *whānau* of academia. Thanks so much for the lessons and learning. I will always hold them dearly to me.

I am thankful to have been able to access a multitude of doctoral (and *Māori* doctoral targeted) student support services and groups within these departments of *Waikato* University. My thanks to the International Global Change Institute doctoral student programme for the support and camaraderie. I also acknowledge the *Māori* doctoral support group of *Māi Ki Waikato - Ngā Pae ō te Māramatanga* and especially the administrative staff, Doctor Sarah-Jane *Tiakiwai,* Doctor Robert Joseph, Joseph McFarlane and Marion Reid.

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My sincere appreciation and acknowledgement extends to the staff of the external government agencies (Brent Fletcher/Environment *Waikato,* Lorraine Skiffington/Ministry of Justice, Anthony *Patete/*Ministry of Justice, Tim Brown/Ministry of Justice, Mike Doogan/Crown Law and Colin Light/*Taupō* District Council) and corporate entities (Chris *Koroheke/*Mighty River Power, Don Scarlet/Mighty River Power, Wayne King/Carbon Market Solutions Limited and Naida Suprato/Australian Water Technologies Limited New Zealand), for the valuable learning opportunities and mentoring advice they provided during the doctorate. I especially acknowledge Brent, Chris, Colin and Lorraine for their concerted efforts in working collaboratively toward the advancement of *Harataunga* and *Waitahanui kaitiaki.*

I am so thankful that my three children attended such a high quality primary (Hamilton East) school during the doctorate. My great appreciation and gratitude to the *whānau* of teachers (notably the school principal Mr Alan Bull) and support staff (with specific regard to the morning and afternoon care workers) of Hamilton East Primary School. I also acknowledge the teamwork and support of fellow *Māori* parent helpers, as chairperson of the school's *Māori* parenting group.

A big thank you to my twin boys father Mr Jack *Matiaha* for his enduring support and in meeting childcare needs. I additionally acknowledge two of my extended *whānau* (Mr Leslie Wall - chairman of the *Waitahanui marae* trustees and Mr *Tenga* Dean - my youngest son's father), whom both passed away in 2006. On behalf of my children and I, we are sincerely appreciative for the practical help and assistance you both provided during the doctorate.

Another huge thank you goes to my comrades (Les, Ann, Barbara, Joe, Mandy, Memorie, *Mihikotukutuku, Ngatoru* and *Ngawaka)* of the *Waitahanui marae* trustees, with specific regard to Les (chair) and Ann (treasurer). I was especially thankful for the ongoing support and help from both Les and Ann throughout the doctorate enrolment in my capacity as trust secretary.

I acknowledge another two extended *whānau* members - Mr and Mrs Jack and Kathy Kelly. Thank you Aunty and Uncle for looking after our *Waitahanui* home, while studying and living away to complete the doctorate. The boys and I are very appreciative and thankful.

In particular, the doctoral experience has taken its toll on my personal life, with deep suffering from a gruelling immediate family breakdown. Indeed, the *aroha,* love for my *whānau*, family is forever binding and cuts straight to the heart. I acknowledge my own family's life apprenticeships and contributions to the development of our people, during the doctorate. I admire my mother's (Esther Simon) self-sacrificing commitment to her seven *mokopuna (Te Kawa, Te Ake,* Nathan, *Ngatai Mihiata Pukawa*, Sapere, *Kahu* and *Hemare)* grandchildren. I appreciate my older brother's (Robert Simon) drive for self-improvement and his *aroha*, love for our *whānau,* family. I respect my younger sister's (Victoria Simon) *Māori* leadership role in nursing education and her doctorate on raising the profile of *Māori* nurses. I also respect my younger brother's (Edward Simon) *Māori* leadership role in local community development and his progress toward a doctorate related to the empowerment of our *Tainui* affiliated *whānau.* I am very proud of my youngest sister's *(Raukawa* Simon) achievements of a double degree *(Māori* and *Law)* and her admission to the bar (to become a barrister and solicitor) as a single parent of two young girls. I especially look forward to rebuilding and reconnecting with my immediate *whānau,* family.

Notably, only a few people (living and non-living) have truly remained at my side. You know who you are. You have believed in me, no matter what. Your loyalty, faith and *aroha* will never be forgotten.

Lastly, I pay tribute to the essence of my life - my three beautiful sons *Te Kawa, Te Ake* and *Ngatai Mihiata Pukawa* Simon.[i] It is beyond words the gratitude I have for your good behaviour and coping abilities during the doctoral journey. I simply could not have done this doctorate, without such well behaved children. I do acknowledge the many sacrifices you all have had to make, so Mummy could finish this work. Thank you so much my darling boys for the unfailing loyalty, enduring support and unconditional love.

[i] In the above photograph, I present my *whānau*, family: *Katarina* Simon (top centre of photo), *Te Kawa* Simon/elder twin (right side of photograph), *Te Ake* Simon/younger twin (left side of photograph) and *Ngatai Mihiata Pukawa* Simon (bottom centre of photograph).

PRELUDE

In this prelude, I lay out the theoretical and cultural foreground of the study. After setting the use of theory, the theoretical development of *Māori* culture is introduced.

Theoretical concepts and acronyms

The theoretical argument of this thesis unfolds through various acronyms and concepts of theory. These have already been systematically listed in the *Glossaries* of the thesis. For ease of reading, they are firstly introduced and defined at four stages of the articulation of theory in the study, as summarised in *Table i.i.*

Table i.i   Four stages of the articulation of theory in the study - conceptual framework

Theoretical level	Chapters of the thesis	Theoretical focus
Stage 1		
Macro theory	**Prelude - Chapter 1**	**Value change**
Stage 2		
Macro theory	Chapters 2 - 3	Reflexivity
Stage 3		
Meso theory	Chapters 4 - 5	Nuanced reality
Stage 4		
Micro theory	Chapters 6 - 8	Reflexive practice

As illustrated in the above conceptual framework of my articulation of theory (*Table i.i)*, the theoretical levels are broken down at two chapter intervals, which are defined by a particular theoretical focus. Therefore, it is at the beginning of each of these four stages of the thesis, that terminology of the theoretical focal point are introduced and defined.

Value change is the theoretical focal point of *Prelude* and *Chapter 1,* as highlighted in *Table i.i.* They are both theorised at the level of macro theory. The *Prelude* introduces my *Māori* reflexive stance on value change, whereas *Chapter 1* focuses on value change in the comparison of value conflict and convergence.

Stage 1 terminology - the acronyms and concepts of value change

Before going ahead with my theorising of value change in the *Prelude* and *Chapter 1,* I first introduce and define the stage 1 terminology of the thesis. The acronyms and concepts of value change in the study are listed in *Tables i.iia,b.* For further details see the *Glossaries of Theoretical Acronyms and Concepts.*

Table i.iia   The acronyms of value change in the study - definitions

Acronym	*Definition*	*Meaning*
EPI	*environmental performance indicator*	environmental measures or parameters
IK	*indigenous knowledge*	generic term for *te ao Māori*
RMA 1991	*Resource Management Act 1991*	*Aotearoa* environmental legislation
WSK	*western scientific knowledge*	official discourse

Table i.iib   The concepts of value change in the study - definitions

Concept	*Definition*
And/Also	theoretical analysis of the subtleties of nuanced reality
And/Or, Either/Or	oppositional theorising of nuanced reality
apprenticeshiping	one's trials and tribulations of life's learning lessons
detraditionalisation	use and non-use of tradition in the reflexive reconstruction of identity and values
difference/distinction discourse	opposing epistemological power relations
discourse	epistemological power relations underpinning knowledge/value change
experiential reflexivity	one's own apprenticeship of *Māori* reflexivity
Māori reflexive stance	And/Also standpoint on *Māori* reflexivity
Māori reflexivity	*Māori* peoples reflexive adaptation to change, based on the reinvention of *Māori* identity
Māori theorising	*Māori* reflexive stance on theory *('side a')* and reality *('side b')*

concepts continued

Concept	*Definition*
modernity	basic sociological conceptual framework of change
ngā tikanga tūpato	*Māori* conservation and use values
nuanced problem solving	theoretical stance of And/Also
nuanced reality	reflexive practice of And/Also
paradigm	dominant worldview or epistemology
reflexivity	main attribute of change, based on the active reinvention and adaptation of self-identity
synergy	nuanced reality of the affinity and difference of values
synergistic value change	reflexive processes of synergy at the interface of knowledge/value change
te ao Māori	*Māori* world paradigm
tradition	basic sociological conceptual framework of the past

Stage 1 of my *Māori* theorising of theory and reality

In the theoretical argument of the study, I put forward a *Māori* viewpoint of theory (as categorised by reference to *'side a'*) and reality (as categorised by reference to *'side b'*), termed my '*Māori* theorising' *(Table i.iib).* To further assist the reader, both the theory and social reality sides of my *Māori* theorising are also introduced and defined at stages 1 - 4 of the thesis *(Table i.i),* as schematically portrayed in *Figure i.i.*

Figure i.i Schema of my *Māori* theorising of theory and reality - stage 1: where theory (side a) informs social reality (side b)

As exemplified in the above schema of my *Māori* theorising of theory and reality *(Figure i.i),* the thesis is distinguished two-fold. On one side (referring to the direction of articulation from theory or *side a,* to reality or *side b),* theory is used to theorise social reality (referring to stages 1 and 2 of the thesis or the *Prelude* and *Chapters 1 - 3).*

On the other side (referring to the direction of articulation from reality or *side b,* to theory or *side a),* social reality informs my articulation of theory (referring to stages 3 and 4 of the thesis or *Chapters 4 - 8).* Overall, I am primary concerned with the correlation between them. This subject is dealt with in detail in *Chapter 8.*

Hence, I start with an emphasis on the theoretical articulation of social reality, as highlighted at stage 1 of my *Māori* theorising of theory and reality in *Figure i.i.*

My pro-Māori use of theory and the Māori whakatāukī, proverbs of the study - stage 1

As previously mentioned *(Preface),* this thesis is geared toward the advancement of *Māori.* Thereof, I employ a pro-active or 'pro-*Māori'* usage of theory, based on three *kaupapa*, purposes; these being,

    i.   to propel a *Māori* theoretical voice;

    ii.   to realign a *Māori* viewpoint of theory on par with the dominant discourse; and

    iii.   to advocate the cross-cultural use of theory.

From a *Māori* cultural viewpoint, I draw upon five *Māori whakatāukī,* proverbs, whereby one of them embraces the others *(Appendix i.ii).* They relay the essence of my pro-*Māori* theorising, as encapsulated through the theoretical development of proverbial themes in *Table i.iii.*

To additionally aid the reader, I lay out the overall thrust of my pro-*Māori* theorising, as demonstrated in *Table i.iii.* A conceptual framework is put

forward, containing six attributes (issues, actions, outcomes, limitations, implications and further research) of the theoretical argument in the study *(Table i.iii).* They are also introduced and defined in relation to the *Māori whakatauki* at stages 1 - 4 of the thesis *(Table i.i).*

Thereby, I open with the *Māori whakatāukī,* proverb: *'E tipu, e rea, mō ngā rā o tōu ao; ko tō ringa ki ngā rakau a te Pākehā hei ora mō to tinana, ko tō ngākau ki ngā taonga a ō tīpuna hei tikitiki mō tō māhunga, ā ko tō wairua ki te Atua, nāna nei ngā mea katoa',* 'Grow and branch forth for the days of your world; Your hand to the tools of the *Pākehā*[15] for the welfare of your body, Your heart to the treasures of your ancestors as adornments for your head, Your spirit with God, who made all things' *(Table i.iii).* To me, it is all-embracing, that being; from my pro-*Māori* theoretical emphasis on 'progress forward and *Māori* reflexivity' or the main *whakatāukī* of the study.

Thus, the thesis begins with the *Māori whakatāukī,* proverb *'Kotahi te kahao o te ngira e kuhuna ai te miro ma, te miri pango, te miro whero',* 'There is but one eye of a needle, through which the white, black and red cotton are threaded'. In my viewpoint, it encompasses a pro-*Māori* theoretical emphasis on 'the synergistic potential of *Māori* reflexivity' or the stage 1 proverbial theme, as theorised through the six main attributes at stage 1 of the thesis *(Table i.iii).* A detailed account of the stage 1 *whakatāukī* is provided in *Appendix i.ii.*

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[15] In *Aotearoa, Pākehā* is the *Māori* term for western European people.

Table i.iii   Overview of my pro-*Māori* use of theory and theoretical argument of the study - conceptual framework/ stage 1

Main attributes of the theoretical argument					
Issues	*Actions*	*Outcomes*	*Limitations*	*Implications*	*Future Research*
Main whakatāukī, proverbial theme - 'Progress forward and Māori reflexivity'					
PART 1: COMPARISON OF VALUES					
Stage 1 whakatāukī, proverbial theme - 'The synergistic potential of Māori reflexivity'					
contesting value systems	***Māori* theorising of the difference and affinity of values**	***Māori* synergistic approach**	**unrealised potential of synergy**	**reconciliation of values**	**reconciliatory approaches**
Stage 2 whakatāukī, proverbial theme - 'An evolutionary viewpoint of Māori reflexivity'					
reflexive change	*Māori* theorising of reflexive change	*Māori* viewpoint of reflexive change	*te ao Māori* as non-reflexive	reflexive processes of cultural loss and cultural survival	*Māori* adaptive strategies of cultural loss and survival
PART 2: BALANCE OF VALUES?					
Stage 3 whakatāukī, proverbial theme - 'The adaptive strength of Māori reflexivity'					
nuanced reality of synergy	*Māori* theorising of nuanced reality	*Māori* viewpoint of nuanced reality	oppositional theorising	nuanced reality of oppositions and similarities	nuanced problem solving
Stage 4 whakatāukī, proverbial theme - 'The adaptive endurance of Māori reflexivity'					
reflexive practice of synergy	*Māori* theorising of reflexive practice	*Māori* viewpoint of reflexive practice	one-sided viewpoint of reflexive practice	reflexive practice of cultural loss and survival	*Māori* reflexive practice of cultural loss and survival

Reflexivity as a Māori woman - my Māori reflexive stance

I adapt the term 'reflexivity' from Giddens (1990, 1991; 1996) work on self-identity and modernity. Reflexivity is not normal reflection, but the active re-invention and adaptation of self-identity in the context of knowledge, information and change. Increasing reflexivity is a core attribute of the way people and institutions are conditioned by and become agents in conditioning modernity. This issue is dealt with in detail in *Chapters 2 - 3.*

My *Māori* reflexive stance pertains to my *Māori* woman viewpoint of reflexivity. In the *Māori* reflexive stance of the study, my reflexivity (as a *Māori* woman) bears the brunt of change in contemporary individualisation and the disintegration of the connectedness and meaningfulness of locality-place kinship networks and the traditions that underpin and give meaning to these.

Innermost, *Māori tikanga* is reflexively practised and applied from a *Māori* reflexive stance based on the multiple or reflexive reconstruction of *Māori* identity, termed '*Māori* reflexivity'. To be reflexive, means to adapt and re-invent one's various identities for survival and growth in contemporary times. My primary identity is *Māori* woman - the practice and application of *Māori tikanga* being at its core. The other identities that I have, include; being a registered nurse; doctoral candidate; exercise instructor; community worker; and single parent (Simon, 1999).

In my conduct as *Māori* researcher, these identities are managed reflexively, by co-opting one identity over the other. For example, when practising and applying *Māori tikanga,* I adopt my primary identity as a *Māori* woman.

Hence, *Māori* reflexivity is quite cross-cultural. Throughout the evolution of *Māori* adaptation, *Māori* have reflexively co-opted their various identities. As exemplified by my own array of multiple identities, it entails either the suppression or utilisation of *Māori tikanga.* For example, there are times when utilising *Pākehā* culture, that my nursing and doctoral candidate identities take precedence over my primary identity as a *Māori* woman and visa versa when I utilise *Māori tikanga.*

At the crux of reflexive practice, is an identity struggle stemmed on a continual negotiation of affinity and difference. It is this cross-cultural existence, which provides a foundational bicultural continuum in the search for synergistic balance. I argue that this synergy is found in the place where affinity and difference are balanced. However, it is a place that is continually shifting and always, in need of re-locating. I expand on this topic in *Chapters 1* and *2.*

Māori/indigenous[16] and western scientific knowledge paradigms

Māori/indigenous and western scientific knowledge and values or 'paradigms,'[17] are the focal point of the comparative analysis of synergy. Both paradigms have specific terms of reference in my articulation of synergistic value change.

The *Māori*/indigenous paradigm is articulated by reference to '*te ao Māori',* the *Māori* world paradigm,[18] with its two major attributes being:

 i. indigenous knowledge (IK)[19] and
 ii. *ngā tikanga tūpato, Māori* conservation and use values;[20] this being the key subject matter of the research.

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[16] The use of *'Māori/*indigenous' here refers to *Māori* as both indigenous peoples of *Aotearoa/* New Zealand and *tē ao,* the world (Burger, 1990; Gragson et al., 1999; King, 1992; Maybury-Lewis, 1997; Mead, (S)1997; and Perry, 1996).

[17] In this research, my use of the 'paradigm' is predominately informed by Kuhn's (1977) work on the concept of 'paradigm'. According to Kuhn (1977), a paradigm is a governing set of ideas (referred to here as attributes of the worldview) of a particular period of time that is eventually taken over by another paradigm of altered or adjusted ideas in what is termed a 'paradigm shift'. One of the most significant contributions from Kuhn's (1977) paradigm concept was that the essence of a period of history could be captured through the identification of main attributes of a paradigm. The identifying of paradigmatic shifts is the main influence from Kuhn's work that is applied in my analysis of value change in this research. For further details see *Chapter 2.*

[18] In this research, *te ao Māori, Māori* epistemology, is a valid worldview or paradigm of reality - referring to the '*Māori* world paradigm' *(Chapter 2).*

[19] To avoid minimisation of *Māori* ecological knowledge as a defensible knowledge system, I refer to the increasingly sound term of indigenous knowledge (IK), rather than the less valid term of traditional ecological knowledge (Battiste, 2000; Battiste et al., 2000; Howitt, 2001; Linzey, 1995; and Warren et al., 1995). For further details see *Chapter 2.*

[20] In this research, *ngā tikanga tūpato* is categorised in two value sub-groups, termed the 'main' values of *wairua, whakapapa* and *whānau,* and the 'subsidiary' values of *aroha, kaitiaki, kotahitanga, manaaki, mauri* and *wāhi tapu.* For further details see *Chapter 2.*

The western scientific paradigm is conceived by reference to its two main attributes of:

i.   western scientific knowledge (WSK) and

ii. western scientific conservation and use values.

I give a detailed account of these terms of reference in *Chapter 2.*

The *Māori* people-environment relationship

Before embarking on my usage of *Māori* terms about the *Māori* people-environment relationship, I first introduce the *Māori* cultural standpoint of the study from which they can be contextualised. In my viewpoint, all aspects of *Māori* culture are infused with *wairua,* the spiritual and the temporal. In the *Māori* people-environment relationship, these two major dimensions are inter-connected, as diagrammatically portrayed in *Figure i.ii.*

Figure i.ii   The *Māori* people-environment relationship - conceptual framework

As exemplified in the above diagram of the *Māori* people-environment relationship *(Figure i.ii), kaitiakitanga*, *Māori* stewardship of nature is underpinned by fundamental *Māori* values: *ngā tikanga tūpato,* including *aroha,* love; *manaaki,* caring for nature; *mauri,* nature's life force; *whakapapa* and *whānau,* nature's interconnections. According to my *Māori* cultural viewpoint, these essential values encompass holism and multi-dimensionality. This is illustrated by the overlapping inter-connections, stemmed on the core value of *wairua;* this being, the essential infusing tenet of spirituality in *ngā tikanga tūpato.* Only some of the main values of *ngā tikanga tūpato* are introduced here. I elaborate on *ngā tikanga tūpato* in *Chapter 2.*

Detraditionalisation

Taken together, therefore, *te ao Māori* is not fixed and unchanging in *Māori* reflexivity. Rather, I adopt a change-oriented viewpoint of tradition, based on the reinvention of *ngā tikanga tūpato*, termed 'detraditionalisation' (Adam, 1996; and Heelas et al., 1996). This subject is dealt with in detail in *Chapters 2, 3, 6* and *7.*

Summary

To summarise, the above discussion preludes *Chapter 1,* by setting the theoretical and *Māori* cultural foreground of the study. Next, value change is introduced from the comparison of the conflict and convergence of values in *Chapter 1.*

FINDING SYNERGISTIC CONSERVATION VALUES?

MĀORI TIKANGA, SCIENCE, RESOURCE MANAGEMENT AND LAW

A thesis

submitted in fulfilment

of the requirements for the Degree

of

Doctor of Philosophy

at the

University of Waikato

by

KATARINA HERAMOANA SIMON

_____

University of Waikato

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FINDING SYNERGISTIC CONSERVATION VALUES?
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_____

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ABSTRACT

In this doctorate, I provide a balanced and collaborative approach to knowledge/value change between the contesting worldviews of indigenous knowledge and western science, termed 'synergistic'. My search for synergy is comparative and reconciliatory. This endeavours to overcome the popular pre-occupation with conflict and opposition. Rather, both difference and similarity are recognised. Through the comparison of such synergy, I argue that *Māori* development requires for its further advancement a focus not only on difference and conflict, but also on affinity and convergence.

My primary concern is to establish a better understanding of the synergistic, adaptive strategies or indigenous innovation of *Māori kaitiaki,* environmental stewards. I investigate conflicting and converging *Māori* and western scientific conservation and use values in *Aotearoa/*New Zealand[1] environmental governance and management regimes under the *Resource Management Act 1991,* with specific regard to indicator development. The balance of values were compared in ecological environmental governance, from five *Aotearoa* governmental authorities and three *Māori* river communities, utilising *Māori* and western social science methods. My focus on indicators pinpoints contesting knowledge/value change between the marginalisation of indigenous knowledge and dominance of western science. This seeks to highlight the potential viability of *Māori kaitiakitanga,* stewardship in global and national terms of sustainability.

However, potential synergy is held back by a prevailing viewpoint of the indigenous worldview as backward, past-oriented and non-synergistic. An oppositional dogma predominates, which is a key problem to overcome. It spans world and national literature, resulting in considerable gaps in knowledge on synergy, conceptually, methodologically, empirically and analytically.

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[1] *Aotearoa* is the *Māori* name for New Zealand, which is the non-*Māori* name.

This is addressed by an authoritative *Māori* synergistic standpoint from my own cultural lens and decolonised theorising, termed 'nuanced problem solving'. I articulate both worldviews in knowledge/value change through comparative, evolutionary, multi-dimensional, cross-cultural and inter-disciplinary research on synergy. My nuanced problem solving encapsulates the two main parts of the doctorate, whereby synergy is correlated between theory and social practice. Part one deals with value comparison in theory utilising high abstracted concepts and methods at the global level of environmental governance. Part two deals with value balance in social practice utilising medium abstracted and concrete empirical and analytical research at global, national, regional, district and cross-tribal levels of environmental governance. Potential synergy cross-cuts each part from high abstracted thought down and from the practical flax roots up. I argue that *Māori* advancement fluctuates between them.

Drawing on cultural and theoretical leanings of the *Māori* synergistic standpoint, both a strong correlation with existing theory and expanded synergistic theorising was found. Due to the expansiveness of the research, these correlated findings only provide an embryonic understanding of potential synergy.

A postscript describes my other work on synergy with five external agencies concerning foreshore, lakeside, wastewater, land disposal and carbon marketing *kaitiakitanga*. I argue that additional research on synergy is needed in order to further advance *Māori*.

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GLOSSARY OF *MĀORI* TERMS[2]

A

Aotearoa	New Zealand
aroha	love
arohatanga	loving

H

hapu	sub-tribe
he mihi	a greeting
he moe tapu	a sacred vision or prophecy
hīkoi	trip, journey
hui	meeting, gathering

I

Io	*Māori* supreme god
iwi	tribe

K

kai	food
kaitiaki	guardian, caretaker
kaitiakitanga	*Māori* stewardship of nature
karakia	prayer
kaumātua	male elder or leader
Kaupapa Māori	*Māori* driven or pro-*Māori*
koha	gift
kotahitanga	unity
kuia	woman elder

M

māmā	mother
manaaki	care for, respect
Māori	native or first people of *Aotearoa*
marae	meeting area and buildings
mātauranga te ao tūroa	*Māori* environmental knowledge
matua	man, male
mauri	essential life force or spiritual essence
mokopuna	grandchildren

N

ngā tikanga tūpato	*Māori* conservation and use values
ngā wairua kaitiaki ō ngā awa	river spiritual guardians

P

pāpā	father

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[2] In this study, I use simple or universal definitions of *Māori* terms. My key readings include: Ryan (1995) and Williams (1991).

R

rangatira	chief
rangatiratanga	authority
Rangiatea	heaven
rohe	territory

T

tangi	funeral
taonga	treasure
te ahi kā	home people
te ao	world
te ao Māori	*Māori* world paradigm
te ao tūroa	environmental world
Te Ika a Maui	North Island of *Aotearoa*
te taha wairua	spiritual side
te tīmata	beginning
tikanga	custom
tipuna	ancestor
tohunga	priest

U

utu utu	reciprocation

W

wāhi tapu	sacred place
wahine	woman
wai	water
waiata	song
wairua	spiritual dimension
wairua kaitiaki	spiritual guardian
waka	canoe
whakapapa	genealogy
whakatāukī	proverb
whakawhānaungātanga	family interconnections
whānau	family
whenua	land

GLOSSARY OF THEORETICAL ACRONYMS

Acronym	*Definition*	*Meaning*
c C	*conservation*	conservation theory-category
CoG	*conservation over growth*	conservation over growth theory-category
CvG	*conservation versus growth*	conservation versus growth theory-category
CIR	*collective institutional reflexivity*	representative or collective case examples of the reflexive practice of inter-governmental institutional environmental governance
CCR	*collective cross-tribal reflexivity*	representative or collective case examples of the reflexive practice of cross-tribal local river *kaitiakitanga*
d De	*detraditionalisation*	use and non-use of tradition in the reflexive re-construction of identity and values
DMR	*diverse/multi-reflexivity*	specific case examples of the reflexive practice of socio-cultural consolidation
DP	*distinguishing point*	contemporary location in late-modernity
e EM	*environmental monitoring*	environmental observation or surveillance
EPI	*environmental performance indicator*	environmental measures or parameters

ACRONYMS (continued)

Acronym	*Definition*	*Meaning*
ER	*experiential reflexivity*	one's own apprenticeship of *Māori* reflexivity
EW	*Environment Waikato*	regional environmental authority case study
g G	*globalisation*	macro multi-dimensional change
GoV	*growth over conservation*	growth over conservation theory-category
GvC	*growth versus conservation*	growth versus conservation theory-category
Gr	*growth*	growth theory-category
h HCS	*Harataunga river community case study*	*Māori* river community case study
i IL	*Iwi Liaison Officer*	research participant of the environmental authority case studies
IK	*indigenous knowledge*	generic term for *te ao Māori*
m M	*materialism*	materialism theory-category
MCS	*Māori river community case study*	*Māori* river community case study of cross-tribal local river *kaitiakitanga*
MfE	*Ministry for the Environment*	national environmental authority case study

ACRONYMS (continued)

Acronym	Definition	Meaning
MR	*multi-reflexivity*	specific case examples of the reflexive practice of institutional consolidation
MRU	*Māori river users*	*Māori kaitiaki* of cross-tribal local river *kaitiakitanga*
n NSRU	*non-specific river user*	general river user of local river inter-tribal *kaitiakitanga*
o OCS	*Oparau river community case study*	*Māori* river community case study
ODC	*Otorohanga District Council*	district environmental authority case study
p P	*environmental planner*	research participant of the environmental authority case studies
PG	*post-materialist green*	post-materialist green theory-category
PM	*environmental policy maker*	research participant of the environmental authority case studies
PRU	*Pākehā river user*	*Pākehā* river user of cross-tribal river *kaitiakitanga*
r R	*reflexivity*	main attribute of change, based on the active re-invention and adaptation of self-identity
REA	*reversed epistemological association*	reflexive co-optation of western science

ACRONYMS (continued)

Acronym	*Definition*	*Meaning*
RM	*reflexive modernisation*	contemporary change process
RMA 1991	*Resource Management Act 1991*	*Aotearoa* environmental legislation
s SDP	*sustainable development paradigm*	sustainability world paradigm
SRU	*specific river user*	specific river user of cross-tribal local river *kaitiakitanga*
t TCDC	*Thames-Coromandel District Council*	district environmental authority case study
TDC	*Taupō District Council*	district environmental authority case study
w WCS	*Waitahanui river community case study*	*Māori* river community case study
WIO	*Westphalia international order*	vertical international environmental governance and management
WKS	*Westminster-Keynesian system*	vertical *Aotearoa* (national) environmental governance and management
WSK	*western scientific knowledge*	official discourse

GLOSSARY OF THEORETICAL CONCEPTS

Concept	*Definition*
a *accumulated detraditionalisation*	transitional processes of detraditionalisation between primary and reversed vertical individualisation
And/Also	theoretical analysis of the subtleties of nuanced reality
And/Or, Either/Or	oppositional theorising of nuanced reality
Aotearoa hierarchical organised irresponsibility	total medium abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on inter-governmental institutional environmental governance at the distinguishing point in the five environmental authority case studies
Aotearoa hierarchical reflexive modernisation	total high abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on inter-governmental institutional environmental governance at the distinguishing point in the five environmental authority case studies
Aotearoa hierarchical relations of definition	*Aotearoa* hierarchical reflexive modernisation processes of the relations of definition and late-modern synergy
Aotearoa hierarchical relations of production	*Aotearoa* hierarchical reflexive modernisation processes of the relations of production and late-modern synergy
Aotearoa local reflexive modernisation	total high abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on cross-tribal local river *kaitiakitanga* at the distinguishing point in the three *Māori* river community case studies

CONCEPTS (continued)

Concept	*Definition*
Aotearoa local relations of definition	*Aotearoa* local reflexive modernisation processes of the relations of definition and late-modern synergy
Aotearoa local relations of production	*Aotearoa* local reflexive modernisation processes of the relations of production and late-modern synergy
Aotearoa local social explosiveness of hazard	total medium abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on cross-tribal local river *kaitiakitanga* at the distinguishing point in the three *Māori* river community case studies
apprenticeshiping	one's trials and tribulations of life's learning lessons
autopoesis	process of reflexive change
c *cohesion*	the positive side or pros of experiential reflexivity
collective *cross-tribal reflexivity*	representative or collective case examples of the reflexive practice of socio-cultural consolidation
collective diversity	*Māori* reflexive strategies of late-modernity between the *waka* and *iwi Māori* people groups of wider *Māori* society
collective institutional reflexivity	representative or collective case examples of the reflexive practice of institutional consolidation
consolidated verticality	reflexive reconstruction of vertical epistemology
counter-hegemonic movement	reflexive processes of conservation over growth
counter-hegemony	oppressed ideology

CONCEPTS (continued)

Concept	*Definition*
cross-tribal local river kaitiakitanga	cross-sectional representation of the reflexive reconstruction of river *kaitiaki* identity and values in the *Māori* river community case studies
cultural survival/loss value spectrum of ngā tikanga tūpato	socio-cultural late-modern value categories of the detraditionalisation of *ngā tikanga tūpato*
- normative ngā tikanga tūpato (cultural survival value pole) *- re-normative ngā tikanga tūpato* *- de-normative ngā tikanga tūpato (cultural loss value pole)* *- non-normative ngā tikanga tūpato* *- un-normative ngā tikanga tūpato*	- epistemological 'home-base' of the *te ao Māori* stronghold - strong alignment and connection to the *te ao Māori* stronghold - decreasing alignment and connection - very little alignment and connection - no alignment or connection
d *detraditionalisation*	use and non/use of tradition in the reflexive re-construction of identity and values
difference/distinction discourse	opposing epistemological power relations
discourse	epistemological power relations underpinning knowledge/value change
diverse/multi-reflexivity	specific case examples of the reflexive practice of socio-cultural consolidation
dysfunction	the negative side or cons of experiential reflexivity
e *epochal change analysis*	diagnosis and prescription of periodic change
epochal contours	multi-dimensional shape of change
experiential reflexivity	one's own apprenticeship of *Māori* reflexivity

CONCEPTS (continued)

Concept	*Definition*
f *fluidity*	reflexive negotiation of the use and non-use of tradition in detraditionalisation
g *globalisation*	macro multi-dimensional change
h *hegemony*	dominant ideology
hierarchy	vertical institutional framework
hierarchy and multiple model connection	model of cross-cutting verticality and multiplicity
hierarchical informational reflexivity	vertical inter-governmental information reflexivity
hierarchical official and non-official discourse distinction	vertical inter-governmental official and non-official discourse distinction
hierarchical vertical governance	vertical inter-governmental governance structure
holistic relations	defining term for the non-modern epochal change context
i *informational reflexivity*	accommodation process of knowledge/value change
institutional consolidation	reflexive reconstruction of consolidated verticality by the environmental worker reflexive self
inter-governmental institutional environmental governance	cross-sectional representation of the reflexive reconstruction of environmental worker identity and values in the environmental authority case studies
k *Kaupapa Māori-And/Also*	counter-hegemonic stance of *Kaupapa Māori* research
Kaupapa Māori-And/Or	oppositional stance of *Kaupapa Māori* research

CONCEPTS (continued)

Concept	*Definition*
Kaupapa Māori research	leading *Māori* research approach of *Aotearoa* social science research
l *late-modernity*	contemporary time period
local official and non-official discourse distinction	vertical cross-tribal official and non-official discourse distinction
local informational reflexivity	vertical cross-tribal informational reflexivity
local vertical governance	vertical cross-tribal governance structure
m *Māori reflexivity*	*Māori* people's reflexive adaptation to change, based on the re-invention of *Māori* identity
Māori reflexive stance	And/Also standpoint on *Māori* reflexivity
Māori theorising	*Māori* reflexive stance on theory *('side a')* and reality *('side b')*
modern	period of enlightenment
modernisation	modern change process
modernity	basic sociological conceptual framework of change
mono-cultural	dominant culture
multiple apprenticeships	personal and *whānau* trials and tribulations of life learning
multiple modernities	non-western viewpoint of modernity
multiplicity	non-official discourse
multi-reflexivity	specific case examples of the reflexive practice of institutional consolidation
multiple sustainability model	counter-hegemonic, conservation oriented model of sustainability

CONCEPTS (continued)

Concept	*Definition*
n *ngā tikanga tūpato*	*Māori* conservation and use values
non-modern	non-western world
non-modernity	pre-enlightenment era
non-official discourse	non-scientific, alternative worldviews
nuanced problem solving	theoretical stance of And/Also
nuanced reality	reflexive practice of And/Also
o *official and non-official discourse distinction*	vertical epistemological framework
official discourse	dominant western scientific knowledge/values
p *paradigm*	dominant worldview or epistemology
performance	conservation oriented viewpoint of the environment
performativity	growth oriented viewpoint of the environment
primary vertical individualisation	primary evolutionary stage of *Māori* land alienation and the co-optation of vertical epistemology
r *reflexivity*	main attribute of change, based on the active reinvention and adaptation of self-identity
re-matching	hegemonic accommodation of the other, whereby non-official status is retained
reversed epistemological association	reflexive co-optation of western science
reversed vertical individualisation	secondary evolutionary stage of *Māori* land alienation and the co-optation of vertical epistemology

CONCEPTS (continued)

Concept	*Definition*
risk society	contemporary period of risk
s *similarity/difference discourse*	converging epistemologies
simple modernisation	modern change process
socio-cultural consolidation	reflexive reconstruction of consolidated verticality by the *Māori* river user reflexive self
specific diversity	*Māori* reflexive strategies of late-modernity between the *waka* and *iwi* *Māori* people groups of wider *Māori* society
supremacy	hegemonic superiority
synergy	nuanced reality of the affinity and difference of values
synergistic value change	reflexive processes of synergy at the interface of knowledge/value change
t *te ao Māori*	*Māori* world paradigm
te ao Māori stronghold	adaptive strength of *Māori* reflexivity
technological authoritarianism	vertical authority of informational reflexivity
tradition	basic sociological conceptual framework of the past
v *vertical governance*	vertical epistemological connection of Westphalia international order and Westminster-Keynesian system
vertical individualisation: *- primary & reversed*	two stage evolution of *Māori* land alienation
verticality	official discourse
vertical sustainability model	hegemonic, growth oriented model of sustainability

CONCEPTS (continued)

Concept	*Definition*
w *whakawhānaungātanga* *(three main levels)*	multiple inter-connections of detraditionalisation
- prior whakawhānaungātanga *(level one)* *- immediate whakawhānaungātanga* *(level two)* *- consolidated* *whakawhānaungātanga* *(level three)*	- benchmarking of one's engagement of detraditionalisation - immediate engagement of detraditionalisation - engagement of the cohesive and dysfunctional processes of detraditionalisation

PREFACE

Te Tīmata (The Beginning)[3]

A fellow student recently asked me why I chose to study for my doctoral research the three *Aotearoa/*New Zealand river communities[4] of *Waitahanui,*[5] *Oparau*[6] and *Harataunga.*[7] I told him that I initially had *he moe tapu*, a sacred vision,[8] which spiritually prophesised and sanctioned my research on these three rivers with which I am connected through *whakapapa*, *Māori* genealogy or kinship links. From that point, I said, I just knew they were the 'right' rivers for me to study.

I begin my story about the journey I have taken with the spiritual blessing that came at the start of it. I interpret my dream or vision as an endorsement from *te taha wairua,* which is the spiritual realm of the 'correct' passage travelled. To me, it says that I was given 'the okay' to undertake this journey.

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[3] As *Māori* researcher, it is culturally appropriate to initially ground one's place in the living and non-living worlds. My spiritual kinship affiliation to the three rivers is identified. I then briefly introduce how *Māori tikanga* was applied to obtain the *Māori* spiritual sanctioning of the research. For further details see Glossary of *Māori* terms.

[4] In this research, the three rivers are conceived by reference to the term '*Māori* river community case studies'. For further details see Glossaries of acronyms and concepts.

[5] My *Ngāti Tuwharetoa* affiliated river, located 11km south of *Taupō* in the *Waitahanui* township; that being, a trout fishery. For further details see *Chapter 1 (Figure 1.1)* and *Chapter 3 (Figure 3.1).*

[6] My *Ngāti Hikairo* affiliated river, located in *Oparau* township and flowing from *Pirongia* Mountain to the *Kāwhia* harbour; that being, an inland river. For further details see *Chapter 1 (Figure 1.1)* and *Chapter 3 (Figure 3.2).*

[7] My *Ngāti Porou* affiliated river, located in *Harataunga* (Kennedy Bay), 12km east of Coromandel; that being, a coastal river. For further details see *Chapter 1 (Figure 1.1)* and *Chapter 3 (Figure 3.3).*

[8] In my *Māori* upbringing, *Māori* spiritual experiences such as sacred dreams, prophecies and premonitions were considered a normal part of the social construction of *te ao Māori,* our *Māori* way of knowing. According to my *Ngāti Hikairo tipuna, Māori* spiritual gifts are passed through the senior female aristocracy line of our *whānau.* My mother is the eldest in her family and backwards through the generations these sacred gifts have flowed down through to her (for example, her mother was the eldest daughter of the *whānau).* I am the eldest female in my family, so these spiritual gifts are seen to come to me as passed from my mother. For further details see *Chapter 3* and *Appendices 3.2 - 3.4.*

Wairua (Spirituality)

From my *wahine Māori, Māori* women's point of view, it is very important to first bring forth *te taha wairua,* the spiritual realm. Before further elaboration of the story, I ask for protection, endorsement and sanctioning from *te taha wairua*, through the following protective *karakia,* prayer:[9]

E tō mātou Mātua i te rangi (Our Father which art in heaven),
Kia tapu tōu ingoa (Hallowed be thy name),
Kia tae mai tōu rangatiratanga (Thy kingdom come),
Kia meatia tau e pai ai (Thy will be done),
ki runga ki te whenua (On earth as it is in heaven),
kia rite anō ki to te rangi,
Homai ki a mātou āianei (Give us this day our daily bread),
he taro ma mātou mo tēnei ra,
Murua o mātou hara (and forgive us our trespasses),
Me mātou hoki e muru nei (as we forgive those who trespass against us),
I o te hunga e hara ana ki a mātou (Lead us not into temptation),
Aua hoki mātou e kawea kia whakawaia (But deliver us from evil),
Engari whakaorangia mātou i te kino,
Nōu hoki te rangatiratanga, te kaha, me te kororia (For thine is the kingdom, the power and the glory),
Ake, ake, ake (For ever and ever),
Āmine (Amen).

In my viewpoint, a protective, spiritual veil is brought forward to pave the way throughout this *Māori* story telling. The practice and application of *Māori* spirituality was fundamental to my conduct as *Māori* researcher,[10] with specific reference to *ngā wairua kaitiaki o ngā awa,* the river spiritual guardians of the study. In *Chapter 3,* on methodology, I elaborate on my use of *Māori* spirituality in the research.

Therefore, to me, such spiritual sanctioning of the research provides the essential starting point from which this story is told.

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[9] In this research, *Māori* spirituality is adapted for the purpose of cross-cultural use (Metge, 2005). Thus, a western European prayer is translated into the *Māori* language for my research purposes here.

[10] The practice of *Māori* spirituality was most central to my employment of the *Māori* methods in the study. For further details see *Chapter 3.*

He Mihi[11] (Introductory Greeting)[12]

Ko Katarina Heramoana Haimona ahau. (My name is *Katarina Heramoana* Simon). *Nō Ngāti Tuwharetoa, Ngāti Hikairo (Waikato) me Ngāti Porou.* (I am of *Ngāti Tuwharetoa, Ngāti Hikairo (Waikato)* and *Ngāti Porou* descent).

Tuatahi, e mihi ana ahau ki tō tātou kaihanga, nā te mea ko ia te tīmatanga me te whakamutunga o ngā mea katoa, kāti. (First and foremost, salutations to the creator, the beginning and end of all life in this changing world).

Tuarua, e mihi hoki ahau ki tō tātou Arikinui - Te Atarangikaahu e noho mai i te Ahurewa Tapu o ōna mātua tipuna. (Second, I pay homage to *Te Arikinui - Te Atarangikaahu,* on whose ancestral land the University of *Waikato* rests).

Tuatoru, ki ngā tini aituā, ki ngā mate o i ā mārae, o i ā mārae huri noa i te motu. Haere kōutou, whakawhiti atu rā! (Third, to the many *Māori* who have passed on to the ancestral world from their respective marae, go forth to the resting place of your ancestors).

Tuawha, e mihi āna ahau kia kōutou ngā tangata katoa i tēnei rā. (Fourth, greetings to all the readers of this thesis).

Tēnā kōutou, tēnā kōutou, tēnā kōutou katoa. (Greetings and salutations to you all).

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[11] I am very thankful to Mr *Hikitai* Green (*Kaumatua* of Hamilton East School) for his kind assistance with the *Māori* and English translations of the introductory greeting in the study.

[12] According to *Māori tikanga,* custom, it is also culturally appropriate to commence with traditional *Māori* greetings and acknowledgements. For the purpose of 'opening' the reading of this thesis, I use the following salutation order.
- First, I introduce my *Māori* identity as *Māori* researcher through the identification of tribal affiliation.
- I then greet and acknowledge *Io*, the *Māori* supreme being or creator of *te ao,* the world.
- Next, I acknowledge the *Māori* Queen - the highest ranked *Māori* leader of the area in which the University of *Waikato* is situated.
- It is then culturally appropriate to mention our *tipuna,* ancestors who hold sacred place in the living and non-living worlds.
- Lastly, I greet and acknowledge (prospective) readers of the thesis.

The search for synergy and kaitiakitanga, stewardship - my spiritual destiny

According to my own *Māori* spirituality, I was destined to empower the *Māori kaitiaki,* stewards of the three rivers through the search for synergy in the study. As *he moe tapu* enlightened me, our *tipuna,* ancestors practiced *kaitiakitanga*, stewardship, quite synergistically. Yet, to date, these synergistic or adaptive strategies of *Māori kaitiaki* remain largely un-realised. To me, it was my spiritual destiny to address this problem by researching synergy, as practiced in *kaitiakitanga* by our *tipuna*.

The synergistic research model of the thesis - empowering Māori kaitiaki

In the search for synergy, I sought to empower *Māori kaitiaki* through providing a better realisation of the synergistic potential of *kaitiakitanga*. This is articulated in the synergistic research model of the thesis.

In *Parts 1 and 2* of the thesis, synergy is theoretically developed at four levels of the research; that being,

     i.   conceptually *(Part 1),*
     ii.   methodologically *(Part 1),*
     iii.   empirically *(Part 2),* and
     iv.   analytically *(Part 2).*

Furthermore, a postscript demonstrates the theoretical application of the synergistic research model by agencies external to the thesis *(Appendix 9.1)*.

Acknowledging ngā wairua kaitiaki of the study

In the study (and beyond), I acknowledge that the search for synergy is guided, supported and endorsed by *whānau,* family affiliated *ngā wairua kaitiaki,* spiritual guardians or carers of earth. Accordingly, a synergistic research model is put forward with vital regard for the spiritual integrity and depth that such academic references to *kaitiakitanga* hold for our people. Moreover, I acknowledge that synergy was developed and applied in accordance to the lore of our *wairua kaitiaki*; that is, with the best or highest of intent, for the well-being of earth and all living and non-living things.

ACKNOWLEDGEMENTS

Lessons and learning - apprenticeshiping

My doctoral journey entailed great lessons and learning of both hardship and fortune - termed 'apprenticeshiping',[13] that tested my survival abilities at every level of existence. This apprenticeshiping relates to adaptive strategies to change *(Chapter 1)*, while co-opting one's multiple identities in *Māori* reflexivity *(Glossary Bii)*. From my *Māori wahine,* woman viewpoint, such an apprenticeship is considered to be essential for learning and growth. To me, I was continually 'apprenticed' for the reason of valuable lessons needing to be learnt. Considering the severity[14] of some of the lessons/learning, I obviously need(ed) to take heed of what was learnt. For this 'hard' learning and growth, I am eternally grateful and appreciative.

Apprenticeshiping involves the utilisation of the pros and cons of both my own life apprenticeship and those of the *Māori* and non-*Māori* mentors in the study (*Chapter 3*).   Consequently, both the positive and negative sides of these apprenticeships are given due acknowledgement and recognition here.

Wairua, whakapapa, and *whānau*

Wairua, spirituality, *whakapapa,* genealogy and *whānau*, family are the cornerstones of my spiritual kinship relationship, which requires much recognition here. Foremost, I would like to acknowledge and sincerely thank my *pāpā*, father (*wairua kaitiaki,* spiritual guardian) and *māmā,* mother (living *kaitiaki,* guardian) for enabling the genealogical link to the three *Māori* river communities of the study. For it is only through them, that I have the privilege of such a *Māori* cultural background, as kinship affiliated *Māori* researcher.

I also acknowledge and give thanks to *ngā wairua kaitiaki ō ngā awa (Chapter 3)* for their spiritual endorsement, guidance and protection. As sacred

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[13] In this research, 'apprenticeshiping' is articulated as a *Māori* method. For further details see *Chapter 3.*

[14] Several serious episodes of personal safety (sexual, physical and family) were compromised during the *Māori* fieldwork phase of the research. The toll it has taken on my doctoral progress is briefly acknowledged here, but not further discussed. I later expand on my reflexive engagement with such dysfunction in the *Māori* methods of the study. For further details see *Chapter 3.*

guardians of *te ao tūroa,* the environment, I am indebted to their spiritual guardianship roles. I acknowledge my attempt to draw on this spiritual wisdom that was a guiding force throughout the research.

I also extend great appreciation and thanks to the three *Māori* river communities of the research. To those of my immediate and extended *whānau* - a sincere acknowledgement and thanks for the *whakawhānaungātanga,* family help, guidance and support. This was most crucial, as I was unfamiliar with much of the *Māori* fieldwork terrain.

The *whānau* relationships were also helpful for making research connections and networks. I acknowledge my attempts to associate with *te ahi kā,* the *Māori* home people through these *whānau* links in my endeavours as *Māori* researcher. Your enduring *Māori* apprenticeships (that I tried to link with as *whānau*) are duly acknowledged and appreciated.

Academic supervision and advice

Without doubt, I could not have progressed without the academic expertise, guidance and support of my doctoral supervision panelists - Doctor Peter Urich (chief supervisor), Professor Paul Havemann, Professor Russell Bishop and Professor Neil Ericksen; and their various colleagues of the University of *Waikato* - Professor Barry Barton, Professor Richard Bedford, Professor Janet Bornman, Doctor Winifred Crombie, Doctor Neil Haigh, Doctor Alexander Gillespie, Doctor *Tamati* Reedy, Doctor John. F. Smith and Doctor *Aroha* Yates-Smith.

I pay homage to you all. Thank you so much for the hours of time and effort you have put into advancing this work. Your academic help and guidance is very much appreciated and acknowledged.

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Like most doctoral candidates, I have encountered the trials and tribulations of funding applications in support of the research. Thankfully, I was extremely fortunate to be awarded adequate funding. Beforehand, however, I do acknowledge and give thanks for the disappointments as they provided valuable life learning and growth.

A list of my research funding sources, are briefly outlined in *Appendix i.i.* They are all acknowledged and appreciated. In particular, my sincere thanks to *Ngā Pae o te Māramatanga* and *Tuwharetoa* Genesis Group for providing funds near the end of my studies. Without this financial assistance, my research journey would have been agonisingly prolonged.

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Notably, only a few people (living and non-living) have truly remained at my side. You know who you are. You have believed in me, no matter what. Your loyalty, faith and *aroha* will never be forgotten.

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[i] In the above photograph, I present my *whānau*, family: *Katarina* Simon (top centre of photo), *Te Kawa* Simon/elder twin (right side of photograph), *Te Ake* Simon/younger twin (left side of photograph) and *Ngatai Mihiata Pukawa* Simon (bottom centre of photograph).

PRELUDE

In this prelude, I lay out the theoretical and cultural foreground of the study. After setting the use of theory, the theoretical development of *Māori* culture is introduced.

Theoretical concepts and acronyms

The theoretical argument of this thesis unfolds through various acronyms and concepts of theory. These have already been systematically listed in the *Glossaries* of the thesis. For ease of reading, they are firstly introduced and defined at four stages of the articulation of theory in the study, as summarised in *Table i.i.*

Table i.i   Four stages of the articulation of theory in the study - conceptual framework

Theoretical level	Chapters of the thesis	Theoretical focus
Stage 1		
Macro theory	**Prelude - Chapter 1**	**Value change**
Stage 2		
Macro theory	Chapters 2 - 3	Reflexivity
Stage 3		
Meso theory	Chapters 4 - 5	Nuanced reality
Stage 4		
Micro theory	Chapters 6 - 8	Reflexive practice

As illustrated in the above conceptual framework of my articulation of theory (*Table i.i)*, the theoretical levels are broken down at two chapter intervals*,* which are defined by a particular theoretical focus. Therefore, it is at the beginning of each of these four stages of the thesis, that terminology of the theoretical focal point are introduced and defined.

Value change is the theoretical focal point of *Prelude* and *Chapter 1,* as highlighted in *Table i.i.* They are both theorised at the level of macro theory. The *Prelude* introduces my *Māori* reflexive stance on value change, whereas *Chapter 1* focuses on value change in the comparison of value conflict and convergence.

Stage 1 terminology - the acronyms and concepts of value change

Before going ahead with my theorising of value change in the *Prelude* and *Chapter 1,* I first introduce and define the stage 1 terminology of the thesis. The acronyms and concepts of value change in the study are listed in *Tables i.iia,b.* For further details see the *Glossaries of Theoretical Acronyms and Concepts.*

Table i.iia   The acronyms of value change in the study - definitions

Acronym	*Definition*	*Meaning*
EPI	*environmental performance indicator*	environmental measures or parameters
IK	*indigenous knowledge*	generic term for *te ao Māori*
RMA 1991	*Resource Management Act 1991*	*Aotearoa* environmental legislation
WSK	*western scientific knowledge*	official discourse

Table i.iib   The concepts of value change in the study - definitions

Concept	*Definition*
And/Also	theoretical analysis of the subtleties of nuanced reality
And/Or, Either/Or	oppositional theorising of nuanced reality
apprenticeshiping	one's trials and tribulations of life's learning lessons
detraditionalisation	use and non-use of tradition in the reflexive reconstruction of identity and values
difference/distinction discourse	opposing epistemological power relations
discourse	epistemological power relations underpinning knowledge/value change
experiential reflexivity	one's own apprenticeship of *Māori* reflexivity
Māori reflexive stance	And/Also standpoint on *Māori* reflexivity
Māori reflexivity	*Māori* peoples reflexive adaptation to change, based on the reinvention of *Māori* identity
Māori theorising	*Māori* reflexive stance on theory *('side a')* and reality *('side b')*

concepts continued

Concept	*Definition*
modernity	basic sociological conceptual framework of change
ngā tikanga tūpato	*Māori* conservation and use values
nuanced problem solving	theoretical stance of And/Also
nuanced reality	reflexive practice of And/Also
paradigm	dominant worldview or epistemology
reflexivity	main attribute of change, based on the active reinvention and adaptation of self-identity
synergy	nuanced reality of the affinity and difference of values
synergistic value change	reflexive processes of synergy at the interface of knowledge/value change
te ao Māori	*Māori* world paradigm
tradition	basic sociological conceptual framework of the past

Stage 1 of my Māori theorising of theory and reality

In the theoretical argument of the study, I put forward a *Māori* viewpoint of theory (as categorised by reference to *'side a'*) and reality (as categorised by reference to *'side b'*), termed my '*Māori* theorising' *(Table i.iib)*. To further assist the reader, both the theory and social reality sides of my *Māori* theorising are also introduced and defined at stages 1 - 4 of the thesis *(Table i.i)*, as schematically portrayed in *Figure i.i*.

Figure i.i Schema of my *Māori* theorising of theory and reality - stage 1: where theory (side a) informs social reality (side b)

As exemplified in the above schema of my *Māori* theorising of theory and reality *(Figure i.i),* the thesis is distinguished two-fold. On one side (referring to the direction of articulation from theory or *side a,* to reality or *side b),* theory is used to theorise social reality (referring to stages 1 and 2 of the thesis or the *Prelude* and *Chapters 1 - 3).*

On the other side (referring to the direction of articulation from reality or *side b,* to theory or *side a),* social reality informs my articulation of theory (referring to stages 3 and 4 of the thesis or *Chapters 4 - 8).* Overall, I am primary concerned with the correlation between them. This subject is dealt with in detail in *Chapter 8.*

Hence, I start with an emphasis on the theoretical articulation of social reality, as highlighted at stage 1 of my *Māori* theorising of theory and reality in *Figure i.i.*

My pro-Māori use of theory and the Māori whakatāukī, proverbs of the study - stage 1

As previously mentioned *(Preface),* this thesis is geared toward the advancement of *Māori.* Thereof, I employ a pro-active or 'pro-*Māori'* usage of theory, based on three *kaupapa*, purposes; these being,

    i.   to propel a *Māori* theoretical voice;

    ii.   to realign a *Māori* viewpoint of theory on par with the dominant discourse; and

    iii.   to advocate the cross-cultural use of theory.

From a *Māori* cultural viewpoint, I draw upon five *Māori whakatāukī*, proverbs, whereby one of them embraces the others *(Appendix i.ii).* They relay the essence of my pro-*Māori* theorising, as encapsulated through the theoretical development of proverbial themes in *Table i.iii.*

To additionally aid the reader, I lay out the overall thrust of my pro-*Māori* theorising, as demonstrated in *Table i.iii.* A conceptual framework is put

forward, containing six attributes (issues, actions, outcomes, limitations, implications and further research) of the theoretical argument in the study *(Table i.iii).* They are also introduced and defined in relation to the *Māori whakatauki* at stages 1 - 4 of the thesis *(Table i.i).*

Thereby, I open with the *Māori whakatāukī,* proverb: *'E tipu, e rea, mō ngā rā o tōu ao; ko tō ringa ki ngā rakau a te Pākehā hei ora mō to tinana, ko tō ngākau ki ngā taonga a ō tīpuna hei tikitiki mō tō māhunga, ā ko tō wairua ki te Atua, nāna nei ngā mea katoa',* 'Grow and branch forth for the days of your world; Your hand to the tools of the *Pākehā*[15] for the welfare of your body, Your heart to the treasures of your ancestors as adornments for your head, Your spirit with God, who made all things' *(Table i.iii).* To me, it is all-embracing, that being; from my pro-*Māori* theoretical emphasis on 'progress forward and *Māori* reflexivity' or the main *whakatāukī* of the study.

Thus, the thesis begins with the *Māori whakatāukī,* proverb *'Kotahi te kahao o te ngira e kuhuna ai te miro ma, te miri pango, te miro whero',* 'There is but one eye of a needle, through which the white, black and red cotton are threaded'. In my viewpoint, it encompasses a pro-*Māori* theoretical emphasis on 'the synergistic potential of *Māori* reflexivity' or the stage 1 proverbial theme, as theorised through the six main attributes at stage 1 of the thesis *(Table i.iii).* A detailed account of the stage 1 *whakatāukī* is provided in *Appendix i.ii.*

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[15] In *Aotearoa, Pākehā* is the *Māori* term for western European people.

Table i.iii   Overview of my pro-*Māori* use of theory and theoretical argument of the study - conceptual framework/ stage 1

Main attributes of the theoretical argument					
Issues	*Actions*	*Outcomes*	*Limitations*	*Implications*	*Future Research*
Main whakatāukī, proverbial theme - 'Progress forward and Māori reflexivity'					
PART 1: COMPARISON OF VALUES					
Stage 1 whakatāukī, proverbial theme - 'The synergistic potential of Māori reflexivity'					
contesting value systems	***Māori* theorising of the difference and affinity of values**	***Māori* synergistic approach**	**unrealised potential of synergy**	**reconciliation of values**	**reconciliatory approaches**
Stage 2 whakatāukī, proverbial theme - 'An evolutionary viewpoint of Māori reflexivity'					
reflexive change	*Māori* theorising of reflexive change	*Māori* viewpoint of reflexive change	*te ao Māori* as non-reflexive	reflexive processes of cultural loss and cultural survival	*Māori* adaptive strategies of cultural loss and survival
PART 2: BALANCE OF VALUES?					
Stage 3 whakatāukī, proverbial theme - 'The adaptive strength of Māori reflexivity'					
nuanced reality of synergy	*Māori* theorising of nuanced reality	*Māori* viewpoint of nuanced reality	oppositional theorising	nuanced reality of oppositions and similarities	nuanced problem solving
Stage 4 whakatāukī, proverbial theme - 'The adaptive endurance of Māori reflexivity'					
reflexive practice of synergy	*Māori* theorising of reflexive practice	*Māori* viewpoint of reflexive practice	one-sided viewpoint of reflexive practice	reflexive practice of cultural loss and survival	*Māori* reflexive practice of cultural loss and survival

Reflexivity as a Māori woman - my Māori reflexive stance

I adapt the term 'reflexivity' from Giddens (1990, 1991; 1996) work on self-identity and modernity. Reflexivity is not normal reflection, but the active re-invention and adaptation of self-identity in the context of knowledge, information and change. Increasing reflexivity is a core attribute of the way people and institutions are conditioned by and become agents in conditioning modernity. This issue is dealt with in detail in *Chapters 2 - 3*.

My *Māori* reflexive stance pertains to my *Māori* woman viewpoint of reflexivity. In the *Māori* reflexive stance of the study, my reflexivity (as a *Māori* woman) bears the brunt of change in contemporary individualisation and the disintegration of the connectedness and meaningfulness of locality-place kinship networks and the traditions that underpin and give meaning to these.

Innermost, *Māori tikanga* is reflexively practised and applied from a *Māori* reflexive stance based on the multiple or reflexive reconstruction of *Māori* identity, termed '*Māori* reflexivity'. To be reflexive, means to adapt and re-invent one's various identities for survival and growth in contemporary times. My primary identity is *Māori* woman - the practice and application of *Māori tikanga* being at its core. The other identities that I have, include; being a registered nurse; doctoral candidate; exercise instructor; community worker; and single parent (Simon, 1999).

In my conduct as *Māori* researcher, these identities are managed reflexively, by co-opting one identity over the other. For example, when practising and applying *Māori tikanga,* I adopt my primary identity as a *Māori* woman.

Hence, *Māori* reflexivity is quite cross-cultural. Throughout the evolution of *Māori* adaptation, *Māori* have reflexively co-opted their various identities. As exemplified by my own array of multiple identities, it entails either the suppression or utilisation of *Māori tikanga.* For example, there are times when utilising *Pākehā* culture, that my nursing and doctoral candidate identities take precedence over my primary identity as a *Māori* woman and visa versa when I utilise *Māori tikanga.*

At the crux of reflexive practice, is an identity struggle stemmed on a continual negotiation of affinity and difference. It is this cross-cultural existence, which provides a foundational bicultural continuum in the search for synergistic balance. I argue that this synergy is found in the place where affinity and difference are balanced. However, it is a place that is continually shifting and always, in need of re-locating. I expand on this topic in *Chapters 1* and *2*.

Māori/indigenous[16] and western scientific knowledge paradigms

Māori/indigenous and western scientific knowledge and values or 'paradigms,'[17] are the focal point of the comparative analysis of synergy. Both paradigms have specific terms of reference in my articulation of synergistic value change.

The *Māori*/indigenous paradigm is articulated by reference to '*te ao Māori',* the *Māori* world paradigm,[18] with its two major attributes being:

   i.   indigenous knowledge (IK)[19] and

   ii. *ngā tikanga tūpato, Māori* conservation and use values;[20] this being the key subject matter of the research.

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[16] The use of *'Māori/*indigenous' here refers to *Māori* as both indigenous peoples of *Aotearoa/* New Zealand and *tē ao,* the world (Burger, 1990; Gragson et al., 1999; King, 1992; Maybury-Lewis, 1997; Mead, (S)1997; and Perry, 1996).

[17] In this research, my use of the 'paradigm' is predominately informed by Kuhn's (1977) work on the concept of 'paradigm'. According to Kuhn (1977), a paradigm is a governing set of ideas (referred to here as attributes of the worldview) of a particular period of time that is eventually taken over by another paradigm of altered or adjusted ideas in what is termed a 'paradigm shift'. One of the most significant contributions from Kuhn's (1977) paradigm concept was that the essence of a period of history could be captured through the identification of main attributes of a paradigm. The identifying of paradigmatic shifts is the main influence from Kuhn's work that is applied in my analysis of value change in this research. For further details see *Chapter 2.*

[18] In this research, *te ao Māori, Māori* epistemology, is a valid worldview or paradigm of reality - referring to the '*Māori* world paradigm' *(Chapter 2).*

[19] To avoid minimisation of *Māori* ecological knowledge as a defensible knowledge system, I refer to the increasingly sound term of indigenous knowledge (IK), rather than the less valid term of traditional ecological knowledge (Battiste, 2000; Battiste et al., 2000; Howitt, 2001; Linzey, 1995; and Warren et al., 1995). For further details see *Chapter 2.*

[20] In this research, *ngā tikanga tūpato* is categorised in two value sub-groups, termed the 'main' values of *wairua, whakapapa* and *whānau,* and the 'subsidiary' values of *aroha, kaitiaki, kotahitanga, manaaki, mauri* and *wāhi tapu.* For further details see *Chapter 2.*

The western scientific paradigm is conceived by reference to its two main attributes of:

   i.   western scientific knowledge (WSK) and

  ii.   western scientific conservation and use values.

I give a detailed account of these terms of reference in *Chapter 2.*

The Māori people-environment relationship

Before embarking on my usage of *Māori* terms about the *Māori* people-environment relationship, I first introduce the *Māori* cultural standpoint of the study from which they can be contextualised. In my viewpoint, all aspects of *Māori* culture are infused with *wairua,* the spiritual and the temporal. In the *Māori* people-environment relationship, these two major dimensions are inter-connected, as diagrammatically portrayed in *Figure i.ii.*

**Figure i.ii   The *Māori* people-environment relationship -
conceptual framework**

As exemplified in the above diagram of the *Māori* people-environment relationship *(Figure i.ii), kaitiakitanga*, *Māori* stewardship of nature is underpinned by fundamental *Māori* values: *ngā tikanga tūpato,* including *aroha,* love; *manaaki,* caring for nature; *mauri,* nature's life force; *whakapapa* and *whānau,* nature's interconnections. According to my *Māori* cultural viewpoint, these essential values encompass holism and multi-dimensionality. This is illustrated by the overlapping inter-connections, stemmed on the core value of *wairua;* this being, the essential infusing tenet of spirituality in *ngā tikanga tūpato.* Only some of the main values of *ngā tikanga tūpato* are introduced here. I elaborate on *ngā tikanga tūpato* in *Chapter 2.*

Detraditionalisation

Taken together, therefore, *te ao Māori* is not fixed and unchanging in *Māori* reflexivity. Rather, I adopt a change-oriented viewpoint of tradition, based on the reinvention of *ngā tikanga tūpato*, termed 'detraditionalisation' (Adam, 1996; and Heelas et al., 1996). This subject is dealt with in detail in *Chapters 2, 3, 6* and *7.*

Summary

To summarise, the above discussion preludes *Chapter 1,* by setting the theoretical and *Māori* cultural foreground of the study. Next, value change is introduced from the comparison of the conflict and convergence of values in *Chapter 1.*

PART 1   COMPARISON OF VALUES

Chapter 1
Conflict and Convergence of Values

1.1   Introduction

In this chapter, I introduce my investigation of the search for synergy by a comparison of the conflict and convergence of values, termed 'synergistic value change.' To start, the problem context is briefly reviewed, focusing on the gaps of knowledge in the literature. I then build in my own theorising on value change. Next, the research questions, aims and objectives are put forward from the *Māori* reflexive viewpoint of synergy in the study. The remainder of the chapter outlines my theoretical development of the conflict and convergence of values throughout the thesis.

1.2   Problem context - overview

The comparison of value conflict and convergence is at the heart of synergistic value change, as conveyed in nine sub-sections of the following discussion *(1.2.1 - 1.2.9)*. In the first part of the section, I background my search for synergy. The rest of the section locates the comparison of values in the current context of *Aotearoa* environmental governance and management.

1.2.1   Māori river communities - te taha wairua

My own kinship affiliated relationship to the three *Māori* river communities is fundamental to this research *(Preface)*. As prior noted, it stems from a spiritual vision of my people's *kaitiaki* relationship, with the *Oparau, Harataunga* and *Waitahanui* Rivers[21] *(Figure 1.1).*[Note]

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[21] *Figure 1.1* locates the three rivers in *Tē Ika a Maui,* the North Island of *Aotearoa.* For further details of each river location see *Chapter 3 (Figures 3.1, 3.2* and *3.3).*[Note] From Oulton, M. (2003). <u>Contracted maps of the three rivers.</u> Hamilton, University of *Waikato.* Copyright by Oulton, M. Printed with permission.
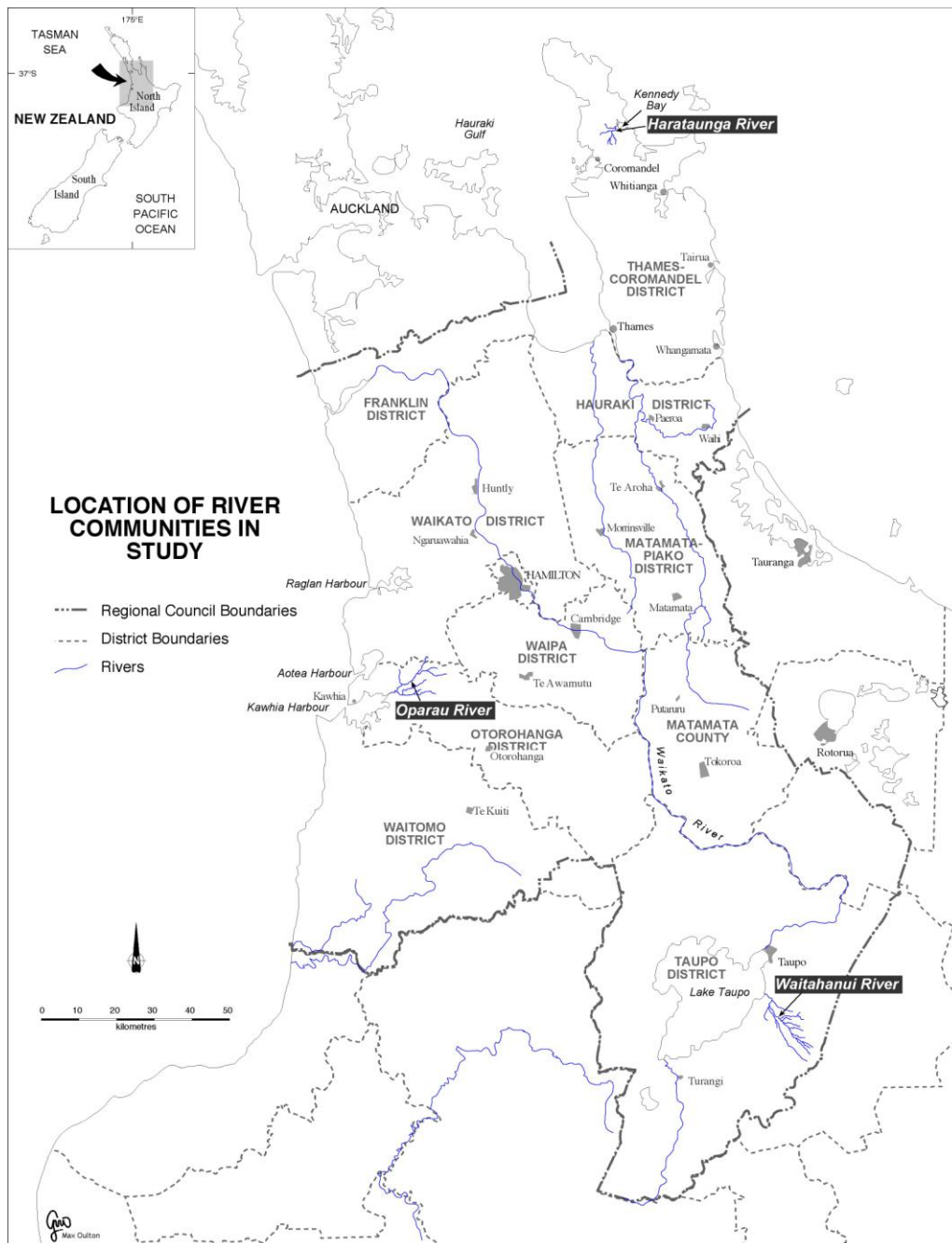
Figure 1.1   The three *Māori* river communities of the study - location map

Although I am connected by *whakapapa* to these *Māori* river communities *(Figure 1.1),* my own living experiences of them is limited. Rather, I associate to the *whānau* (living and non-living) connection of the local people's *kaitiaki* relationship.

In my spiritual vision, their concerns, problems and issues as *kaitiaki* were brought forth. Through *ngā wairua kaitiaki o ngā awa,* I became spiritually aware of the *whānau's* continued plight for the conservation and preservation

of these rivers. To me, it signalled a spiritual obligation - a sense of calling to conserve, protect and advance *te ao Māori,* with particular regard to *ngā tikanga tūpato.* A detailed account of *te ao Māori* and *ngā tikanga tūpato* is given in *Chapter 2.* Upcoming discussion of the chapter expands on my initial introduction provided here.

Overall, a spiritual message came through that I was going to address my own people's *kaitiaki* relationship with the three rivers.

The deaths of several immediate *whānau* near the time of the spiritual vision enhanced my affinity to *te taha wairua,* the spiritual side of the *kaitiaki* connections. Most significant, was the loss of my *pāpā,* the main *wairua kaitiaki.* This issue is dealt with in detail in *Chapter 3.*

In my viewpoint, his affinity with the three rivers is all embracing - although, the *Waitahanui* River is akin to his *Māori* upbringing. I elaborate on Dad's background in *Appendix 3.2.*

To our immediate *whānau,* my *pāpā* was a critical *Māori* role model of *kaitiaki.* He was a *Māori* teacher, leader and *kāumatua,* elder. A detailed account is provided in *Appendix 3.2ai.*

In his later life, many people sought his sacred *Māori* knowledge of *wai,* water. Local environmental governance workers, such as *iwi,* tribal liaison officers, visited him regularly for specialist environmental advice on *kaitiakitanga, Māori* stewardship of the environment. His living experiences as *kaitiaki* encompassed the three rivers. As translated into the spiritual world, I drew on my *pāpā's* life work. Thus, his spiritual essence takes the most important *wairua kaitiaki* role in *ngā wairua kaitiaki o ngā awa.* I expand on my use of *Māori* spirituality in *Chapter 3.* Background information on *ngā wairua kaitiaki o ngā awa* can also be found in *Appendices 3.2 - 3.4.*

1.2.2 *Māori/indigenous and western scientific knowledge paradigms*

The 1999 spiritual vision happened at a time of much debate on the potential role of the indigenous knowledge paradigm (IK) in conserving the state of the environment or enhancing 'sustainability'; that is, through the sustainable

development paradigm (SDP).[22] This impetus on sustainability grew[23] from the downfall of an unsustainable growth model of 'development'[24] underpinned by the dominant western scientific knowledge paradigm (WSK). In *Chapter 4,* I provide a detailed examination of this subject.

Consequently, scrutiny and critique of the role of the western scientific knowledge paradigm peaked from that evolutionary time point onwards. A lot of interest centres on the potential collaboration between the indigenous knowledge and western scientific knowledge paradigms. However, most scholarly attention remains preoccupied with the differences/distinctions[25] between worldviews, termed 'difference/distinction discourse' (McKinley, 2003; Simon, 2000; 2001; 2003; 2006e; 2006f; and Webb, 2003).

1.2.3 The Māori, ngā tikanga tūpato and western scientific conservation and use value continuum

In my review of literature (Simon, 2000; 2006f; 2006m; 2006p; 2006x), I rarely encountered an analysis of both the differences/distinctions and similarities/affinities (termed 'similarity/affinity discourse') between the two knowledge/value paradigms. Similarity/affinity discourse pertains to the shared space or ecological nexus of post-materialist green understandings of the human-environment relationship - sometimes termed 'Green Political Thought' (Dobson, 1990; 1999; Dobson et al., 1995; Krech et al., 2004; Merchant, 1980; 1987; 1996; and Pepper, 1993; 1996).

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[22] In this research, 'sustainability' is analysed in terms of the 'sustainable development paradigm' - this being a highly contestable concept. Many sustainable development paradigm commentators (Escobar, 1995; Gilpin, 1996; Ginther et al., 1995; and Rist, 1997) question whether sustainability and development are understood in balance or whether development has in reality trumped sustainability. For further details see *Chapter 4.*

[23] In this research, I comparatively analyse how the sustainable development paradigm came about from a culmination of environmental and other social movements on the world stage enabled by the United Nations, including the 1972 'Limits to Growth' report, 1972 Earth Summit, Agenda 21(1992), Rio Declaration (1992) and the Convention on Biological Diversity (1994). For further details see *Chapters 4* and *5.*

[24] In this research, I use the term 'development' with recognition of its underlying connotations of growth (Dryzek, 1997; Dryzek et al., 1998; Escobar, 1995; 2001; Offe, 1996; and Rist, 1997). For further details see *Chapters 4* and *5.*

[25] In this research, difference/distinction discourse is drawn from contrasting philosophical premises of *te ao Māori* and western scientific knowledge, such as holism versus segmentation and spiritualism versus empiricism. For further details see Simon (2000: 3 - 8).

Indeed, the playing out of difference and affinity between indigenous knowledge and western scientific knowledge paradigms is especially pertinent in contesting values underpinning the quest for sustainable governance and management of the environment. My articulation of the difference and affinity of values is termed the '*Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum.' In review, current thought focuses on value polarity, as conceived in terms of conservation at one end (termed 'conservation over growth') with the utility values of growth, exploitation and depletion of the environment at the other end (termed 'growth over conservation'). This topic is dealt with in detail in *Chapters 2 - 7.*

1.2.4   Synergy and reflexivity

To date, very little research explores the reflexive comparison of the difference and affinity of values in the context of environmental governance (Simon, 2000; 2002; 2004a; 2007a; 2007b; 2007c). Theoretically, the comparison of values is articulated by reference to the search for synergy, as schematically framed in *Figure 1.2.*
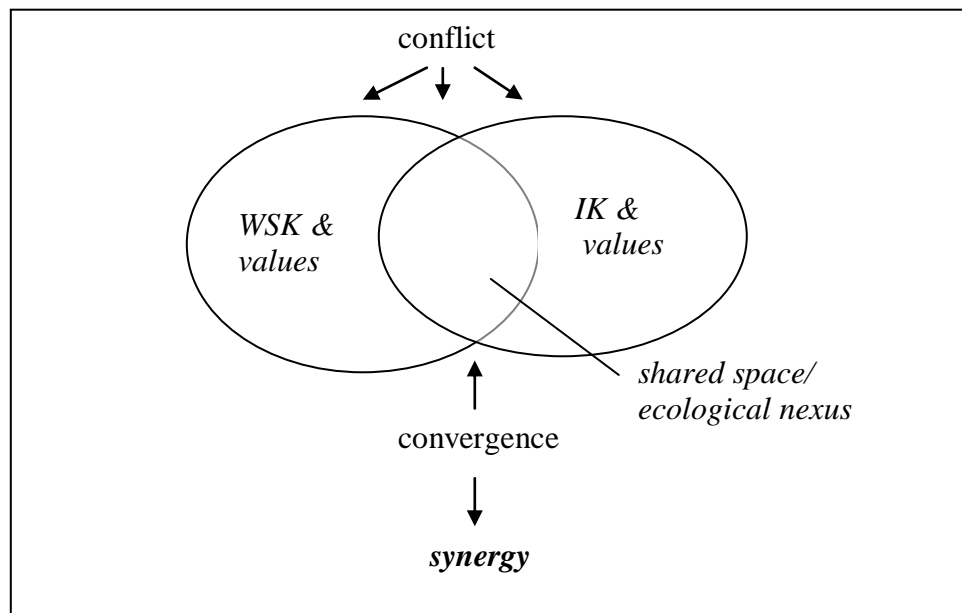
Figure 1.2   Schema of synergy and the comparison of values

Explanatory caption	
acronym	*meaning*
WSK	western scientific knowledge
IK	indigenous knowledge

In synergistic value change, the focal point of comparison is the overlapping interface of values, where there is potential synergy *(Figure 1.2).* Some have termed this the 'ecological nexus' where approaches informed by Green Political Thought join with those informed by the indigenous knowledge paradigm (IK) and values in a shared conservatory ethic of governance (Dobson et al., 1995; Goldblatt, 1996; Krech et al., 2004; Shahi, 1997; Suzuki, 1997; and Yearly, 1991; 1994). Such reflexivity is perceived from both of the overlapping values of conservation (termed 'conservation versus growth') and growth (termed 'growth versus conservation'). *Chapters 2 - 7* provide a detailed account of this topic.

As illustrated by the schema of value comparison in this study, the search for balance of the difference and affinity of values is at the core of synergy *(Figure 1.2).* Overall, the reflexive re-construction of values is a continuous and dynamic change process, rather than a result to be achieved once and for all.

In summary, synergy is articulated in the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum four-fold; that being,

- from the <u>conservation value pole</u> in terms of:
  - *conservation over growth;* and
  - *conservation versus growth.*

- from the <u>growth value pole</u> in terms of:
  - *growth over conservation;* and
  - *growth versus conservation.*

1.2.5 The unrealised synergistic potential of ngā tikanga tūpato in Māori reflexivity

However, despite the dynamic adaptability or survivability of *kaitiakitanga (Preface* and *Prelude),* the synergistic potential of *ngā tikanga tūpato* remains largely unrealised. As a consequence, the reflexive or adaptive strategies employed by *Māori kaitiaki* since time immemorial are ignored. In this research, the reflexive capacity of *kaitiakitanga* in synergistic value change is examined in terms of *Māori* reflexivity *(Prelude).*

1.2.6 *Māori reflexivity and the theoretical limitations of backward thought - introduction*

More particularly, greater recognition of the reflexive adaptability of *Māori kaitiaki* is thwarted by backward thought about *Māori* reflexivity. Foremost, inadequate theorising of *te ao Māori* 'in' the process of change predominates. Indeed, minimal thought is comparative, cross-cultural, multi-dimensional, evolutionary and inter-disciplinary; these being, the essential benchmarks to an articulation of *Māori* reflexivity in synergy (Havemann, 1995; 1997a; and Simon, 2000; 2005; 2006e; 2006f; 2006g). Moreover, this can be attributed to highly influential thinking about modernity[26] and tradition[27] that fails to recognise *Māori* reflexivity.

Consequently, much emphasis is put on theorising *Māori* reflexivity and synergistic value change in the thesis. A detailed account is provided in *Chapter 2*. I elaborate on my theoretical development of *Māori* reflexivity later in the chapter.

1.2.7 *Cultural indicators and ngā tikanga tūpato*

From my literature review (Simon, 2000; 2006t), synergistic value change was especially relevant in the environmental monitoring sub-field of environmental performance indicator[28] (EPI) development. Although most environmental performance indicators are western scientific based,[29] a growing interest has evolved toward alternatives.[30] At the national level of *Aotearoa* environmental performance indicator development under the *Resource Management Act*

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[26] In this research, modernity is defined as a basic sociological conceptual framework for analysing change. My key readings on modernity include: Beck, 1992; 1995; 1999; Giddens, 1990; 1991; 1996; Hall et al., 1992a; 1992b; Offe, 1996; and Taylor, 1999.

[27] In this research, tradition is defined as a basic sociological conceptual framework for conceiving the past. My key readings on tradition include: Adam, 1996; Adam et al., 2000; Beck, 1992; Beck et al., 1994; Giddens, 1996; and Heelas et al., 1996.

[28] Environmental performance indicators are defined as 'key measures or parameters of the environment' (Beanland et al., 1999: 5). They are a primary form of environmental monitoring that inform resource management, policy and law (Beanland et al., 1999; and Ministry for the Environment, 1996) at the local government level of environmental governance. For further details see *Chapter 5*.

[29] In this research, I argue that environmental performance indicators are put together into environmental performance indicator models, dominated by western scientific indicators. For further details see *Chapter 5*.

[30] In this research, non-western scientific indicators are termed 'alternatives' (*Chapter 5*).

(RMA) 1991,[31] Māori indicators[32] have recieved some attention. Considering the prescribing authority of environmental performance indicators, *Māori* indicators hold much potential for the advancement of *he rangatiratanga,* a *Māori* authority and *he kaitiakitanga*, a *Māori* caring or stewardship ethic under the *Resource Management Act 1991.[33]*

Nevertheless, their integration with western scientific indicators is persistently minimal. Thus, the prescriptive authority of *Māori* indicators is kept at bay. Most significantly, this is especially hindered by a prevailing unawareness of the synergistic potential of *ngā tikanga tūpato*. A detailed discussion is given in *Chapter 5*.

1.2.8 *Māori development and synergy - summary of knowledge gap*

Overall, I surmised that the disregard of *Māori* reflexivity and synergistic value change was particularly remiss in *Aotearoa* environmental performance indicator (EPI) development. This gap of knowledge in the literature spanned both the theory and practice of synergy. Altogether, the case of *Māori* indicators cuts straight to the crux of the epistemological struggle to advance *Māori* development under the *Resource Management Act 1991*.

He mātauranga te ao tūroa, Māori ecological knowledge (IK) *me,* and *ngā tikanga tūpato* are continually retained at the fringe of the official western scientific epistemological framework that underpins environmental institutions of *Aotearoa.* The minimal authority of our IK and values has consequently had a marginalising effect on the exercise of *he rangatiratanga* and *he kaitiakitanga* under the *Resource Management Act 1991.[34]* Therefore, the potentially much more influential role of such cultural and ecological knowledge and values is significantly limited in the role they could play in

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[31] *Aotearoa* environmental performance indicators are prescribed under environmental monitoring provisions (Section 35 (1), (2) (a,b,c,d) of the *Resource Management Act 1991 (Appendix 1.1).* For further details see *Chapter 5.*

[32] In this research, I argue that *Māori* indicators fall into 'cultural' or 'social' environmental performance indicator categories *(Chapter 5).*

[33] Three main provisions relate to *Māori* input under the *Resource Management Act 1991,* termed the *Māori* provisions of Section 6 (e), 7 (a) and 8 *(Appendix 1.1).* For further details see *Chapter 4.*

informing sustainable governance and management regimes[35] of *Aotearoa* (New Zealand Royal Commission on Genetic Modification, 2001; Howitt, 2001; *Kawharu,* 1998; 2002; Patterson, 1992; 1994; 2000; Roberts, 1996; and *Tipene-Matua,* 2000).

1.2.9 Research goal - reconciliation of values

Reconciling contesting *Māori* and western scientific conservation and use values of the epistemological framework underpinning environmental governance and management regimes is a major problem yet to be overcome. Continual emphasis on the differences and distinctions between traditional and spiritual values of indigenous knowledge and empirical and technocratic values of western scientific knowledge has persistently failed to resolve existing contestations. Certainly, difference/distinction discourse is important for highlighting impediments to *Māori* advancement, such as epistemological prescribing discrepancies (Bennion, 2005; Gardiner et al., 1998; Nuttall et al., 1995; Roberts et al., 1995; Solomon, 2000; and *Tuanuku,* 1998). However, similarity/affinity discourse (Black, 1994; 1996; Havemann, 2000a; 2002b Howitt, 2001; Sen, 1998; and Trosper, 1998) has received considerably less attention in spite of the fact that this may hold the key to achieving a level of mutual understanding sufficient to underpin effective sustainability.

Reconciliation of difference/distinction and affinity/similarity is one of the most important development issues of this contemporary period (Black, 1994; 1996; Bennion, 2005; and Howitt, 2001). Yet much effort aimed at gaining support for the plight of *Māori/*indigenous peoples remains locked into the assertion of difference and distinction alone. Those points of cultural affinity that could play an important role in the processes of reconciliation and movement forward are largely ignored. It is argued that *Māori/*indigenous development requires, for its further advancement, a focus not only on difference and conflict, but also on affinity and convergence. It is also argued

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[34] In the research, this argument is relative to the environmental governance context of *Aotearoa.* It is noted that a reversed viewpoint can be taken in relative comparison with other states of the world. For further details see *Chapters 4* and *5.*

[35] The sustainable management provision; that is, Part II: Purposes and principles - Sec 5(1) and (2) (a,b,c), *(Appendix 1.1),* pertains to sustainability under the *Resource Management Act 1991 (Chapter 4).*

that the process of synergy is already underway, a process not quite complete, but still developing and yet to be fully realised.

The research goal of this thesis is therefore:

To better explain the reconciliation of values in environmental performance indicator development under the Resource Management Act 1991 and to improve current thought on Māori/indigenous advancement in world and national/Aotearoa scholarship.

Before detailing the research questions, aims and objectives of the study, the main theories of value change are briefly outlined. This is done to further illustrate the nature of the problem being dealt with in the thesis.

Next, I introduce how value reconciliation is investigated through my theorising of value change - firstly, in terms of modernity theory, and; secondly, in terms of one's engagement of the subtleties of synergy, termed 'nuanced problem solving.'

1.3 Modernity and nuanced problem solving - theorising value change

This section introduces the theoretical articulation of value change, according to both the heuristic uses of modernity *(1.3.1 - 1.3.4)* and the employment of nuanced problem solving *(1.3.5 - 1.3.7).*

1.3.1 Theory as method

The theoretical development of modernity is central to this study. It is used as a conceptual tool for analysing issues of our times, understanding how the past influences the present and questioning how much the present foreshadows the future. A detailed examination of this topic can be found in *Chapter 2.*

Hence, modernity is considered unavoidable and all-embracing. The methods of the research are not separated from theory, but rather they encompass theoretical implications of modernity. Thus, theory and method are

intertwined. In my research, this is termed a 'theory as method' approach. A detailed account can be found in *Chapter 3*.

1.3.2 Heuristic uses and applications of modernity

> With political freedom placed at its centre, modernity is not an age of decline of values but an age of values, in which the hierarchical certainty of ontological difference is displaced by the creative uncertainty of freedom (Beck, 1999: 13).

Beck (1999) highlights how modernity and values are theorised within the theory of modernity itself; that is, the theorising of the theory. Although I am informed by Beck and other modernity theorists' theories of change, my use of modernity primarily revolves around its application heuristically (Bauman, 2000; Beck, 1992; 1999; 2000; Beck et al., 1994; Castells, 2002; 2004; Giddens, 1990; 1991; 2003; and Hall et al., 1992a). Thus, modernity is used as a heuristic tool for constructing theory to do analysis of the phenomena of change under investigation; that being, the conflict and convergence of values.

My heuristic uses and applications of modernity enable one's reflexive engagement with the process of synergistic value change. The former refers to my *Māori* standpoint on modernity and the later refers to my *Māori* reflexive stance. Those used and applied in this study are five-fold; that being, the comparative, cross-cultural, multi-dimensional, inter-disciplinary, and evolutionary heuristic uses and applications of modernity theory. My summary chart is provided in *Table 1.1*.

Table 1.1 Heuristic uses and applications of modernity theory - summary chart

Heuristic use	*Heuristic application*
- comparative theorising	- comparative research on synergy
- cross-cultural theorising	- cross-cultural research on synergy
- multi-dimensional theorising	- multi-dimensional research on synergy
- inter-disciplinary theorising	- inter-disciplinary research on synergy
- evolutionary theorising	- evolutionary research on synergy

Taken together, modernity is heuristically used and applied in an all-encompassing capacity to theorise value change. A detailed discussion is given in *Chapter 2.*

1.3.3   Inter-disciplinary location of the study

My inter-disciplinary theorising encapsulates three major schools of academia; that is, sociological (S), environmental (E) and indigenous (I) studies. Thereby, this study is located at the intersection between them, as diagrammatically portrayed in *Figure 1.3.*
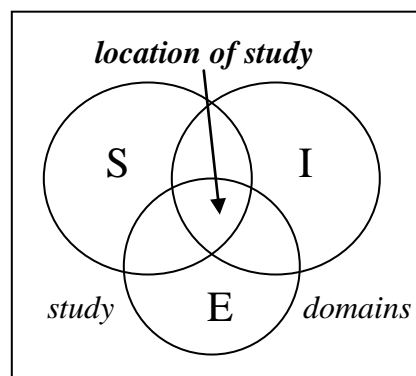
Figure 1.3   Diagrammatic location of the study

As illustrated in the above diagram *(Figure 1.3),* my study straddles disciplinary divides between particular approaches to sociological, environmental and indigenous studies. In effect, I try to use the knowledge and learning from all these study domains to make sense of the phenomena under investigation (Rose, 1991; 1992; 1996; 2004).

1.3.4   Epochal development

The heuristic uses of modernity are centrally applied through the theoretical development of periods of time or epochs of modernity, termed 'epochal development.' Most importantly, epochal development theorises epochal change. It is used to explicate a history of ideas to locate the conflict and convergence of values in the process of value change. I only deal with the salient concepts of epochal change such as reflexivity and detraditionalisation. These concepts provide a communication tool for me to express my viewpoint of value change. Thus, my modernity theorising of epochal development is

primarily used to contextualise value change, rather than detailing the theories of modernity. This topic is dealt with in detail in *Chapter 2*.

Having identified the important uses of modernity theory, the following concluding part of the section expands on how I theorise the subtleties of synergistic value change, termed 'nuanced reality' in my employment of nuanced problem solving.

1.3.5 Contesting value systems and nuanced reality

As synergy is a constantly evolving phenomenon, I engage the subtlety of knowledge/value change between the contesting paradigms of *te ao Māori* and western scientific knowledge. Through the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum, such reflexivity is distinguished four-fold. At the opposite ends of knowledge/value change it refers to conservation over growth and growth over conservation in difference/distinction discourse. The transition between them refers to conservation versus growth and growth versus conservation in similarity/difference discourse. It is in the contestation of knowledge/value change that each one transcends the other. Indeed, these reflexive processes are subtle and nuanced. Hence, synergy is perceived as a nuanced reality, of contesting *Māori* and western scientific paradigms at the cutting edge of knowledge/value change.

1.3.6 The And/Or and And/Also perspectives

In the telling of this story, I am caught in a struggle between constructing an oppositional viewpoint (referring to difference/distinction discourse), termed the 'And/Or' perspective, and a nuanced reality (referring to the incorporation of similarity/affinity discourse), termed the 'And/Also' perspective (Beck, 1999; Havemann, 2002a; 2000b; and Simon, 2004b; 2005). The landmark *Māori/*indigenous writers in the epistemological battle to valorise indigenous knowledge as equally relevant to western scientific knowledge include Battiste (2000); Battiste et al (2000); Bishop (1996; 1998a; 2005); Durie (1994; 1998); and Smith (1999; 2005) *(Chapter 3)*. Although these epistemologies are written about in the same language, they in fact have their own distinct

connotations (Battista, 2004). Also, when critiquing western scientific knowledge to give voice to *te ao Māori,* one often comes across crude instrumentalist approaches to theory, such as the dichotomies of oppositions (Havemann, 1995; 2002a; and Simon, 2004a; 2004b; 2005). Thus, an And/Or perspective comes to the fore (Webb, 2003). Such oppositional writing locks one into an analysis of opposites, termed the 'Either/Or' sub-perspective of And/Or (Havemann, 2002a).

In order to reconstruct a more subtle or nuanced approach to problem solving (the And/Also perspective, termed 'And/Also-nuanced problem solving') one must move beyond And/Or-Either/Or theorising. On one side, the And/Or perspective hinders cross-cultural movement to resolve problems of the world we live in, like the state and legal system. For example, Marxist scholars may bring out state and legal discrepancies, but the reality is they are here to stay and are not going to wither away (Havemann, 1995; 1997; 2002a).

Rather, we reflexively deal with institutions of the world all the time. In fact, they are deeply embedded (Beck, 1992; Giddens, 1996; and Giddens et al., 2001). In particular, *Māori*/indigenous peoples live in two worlds - *te ao Māori* and the wider world, which they manage quite effectively through reflexive adaptation to change. *Chapter 2* examines this issue in greater detail.

So, how do we look at this nuanced reality? Such a nuanced or subtle approach moves into the practice side of dealing with social reality. Thereby, And/Also thinking can be distinguished by a practical perspective of social reality. Altogether, the quest for And/Also theorising encapsulates my own project of story telling.

1.3.7   Theorising a nuanced reality

Modernity theorising at the high abstract thinking level - termed the 'macro' theoretical level - informs my analysis of the practical application of nuanced reality. This is distinct from the world institutional level, termed the 'meso' theoretical level, and at the people/social interaction level, termed the 'micro'

theoretical level. However, the social practice of nuanced reality is most essential to informing theory, as diagrammatically portrayed in *Figure 1.4.*
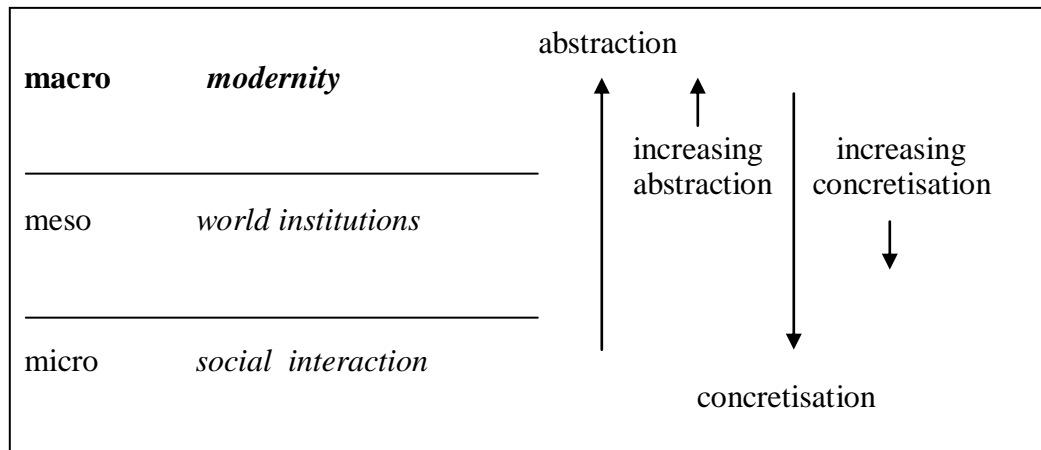
Figure 1.4   Schema of the theoretical levels of nuanced reality in the study

The theoretical levels of the study are represented by increasing abstraction to the 'top' thinking level of modernity and increasing concretisation to the practice of nuanced reality at the 'lower' thinking levels of world institutions and social interaction *(Figure 1.4).* On one side, theory is used to construct the practical application of nuanced reality, as exemplified by the downward arrows of *Figure 1.4.* However, on the other side, the practice of nuanced reality is used to construct theory, as illustrated by the upward arrows of *Figure 1.4.* As indicated in *Figure 1.4,* both sides of the construction of nuanced reality are used in this study.

To summarise, the above discussion introduced the modernity and nuanced problem solving theory of the study, as I now expand in relation to the *Māori* reflexive viewpoint of synergy.

1.4   The *Māori* reflexive viewpoint of synergy

In this section, I introduce the *Aotearoa/*national research context *(1.4.1),* questions *(1.4.2)*, aim *(1.4.3),* and objectives *(1.4.4)* of the *Māori* reflexive viewpoint of synergy.

1.4.1 Research context - introduction

This research centres on the search for synergy between *Māori, ngā tikanga tūpato* and western scientific conservation and use values in the environmental management and governance[36] of three *Aotearoa* rivers under the *Resource Management Act 1991.* The research focuses on the place that *Māori tikanga,* custom,[37] occupies in the design and implementation of environmental performance indicators used in the resource management context.

More specifically, in the underlying nuanced reality of this research context, I focus on the reflexive reconstruction of river *kaitiaki* and environmental worker identity and values at the interface of knowledge/value change. This is theorised in the grounded empirical investigation of *Aotearoa* synergistic value change two-fold; that being,

    i.   by reference to 'cross-tribal local river *kaitiakitanga'* with regard to the river *kaitiaki* of the three *Māori* river community case studies in the study; and

    ii.   by reference to 'inter-governmental institutional environmental governance' with regard to the environmental workers of the five environmental authority case studies in the study.

A detailed account is provided in *Chapter 3* on methodology.

Thus, synergistic value change is investigated in terms of *Aotearoa* resource management, science, policy and law generally, and specifically by means of case studies of three *Te Ika a Maui,* North Island river systems with which I am connected by *whakapapa.*[38] My kinship connections permitted the use of *Māori* methodology *(Chapter 3).* Altogether, both *Māori* and mainstream social

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[36] In this research, I examine national (Ministry for the Environment), regional (Environment *Waikato)* and district *(Taupō,* Thames-Coromandel and *Otorohanga* District Councils) authorities having this jurisdiction. For further details see *Chapter 6.*

[37] In the *Resource Management Act 1991, Māori tikanga* refers to the provisions and conditions of *Māori* custom, meaning, obligations or criterion (Law Commission, 2001).

[38] In this research, these questions were addressed by undertaking: i. content analysis of official discourse on environmental policy, plans and supporting documentation, and, ii. empirical research involving *Māori* and non-*Māori* research participants (environmental performance indicator staff, environmental policy makers, planners, scientists, *iwi* liaison officers and; *Māori* and non-*Māori* local river *kaitiaki).* For further details see *Chapters 3, 6* and *7.*

science research methods and knowledge were employed with the hope of making an original contribution to both knowledge bases.

1.4.2   Research questions

In order to address the knowledge gap of synergy in world and national/*Aotearoa* scholarship on environmental governance and change, I explore the following research questions:

Questions:

Research question 1: *Can synergy be achieved through recognition of both affinity/similarity and difference/distinction?*

Research question 2: *Could such synergy underpin effective Māori development?*

1.4.3   Research aim

I explore and investigate the above questions through pursuing the following research aim:

To advance the theoretical understanding of synergy in environmental performance indicator development under the Resource Management Act 1991, by comparing the conflict and convergence of Māori, ngā tikanga tūpato and western scientific conservation and use values throughout the evolution of synergy in the environmental governance and management of three Aotearoa rivers from the contemporary period of Aotearoa synergistic value change.

To achieve this aim, synergy is theorised at four research levels of the thesis two-fold. As prior noted *(Preface* and *Prelude),* the first part involves the use of theory to theorise synergistic value change; that being, at the conceptual and methodological levels of the research. I employ a comparative, evolutionary, inter-disciplinary, cross-cultural, and multi-dimensional literature-based theoretical investigation of synergy to unlock synergistic value change both conceptually and methodologically. This work endeavours to address the macro theory-conceptual and theory-methodological non-engagement of *Māori* reflexivity and synergy.

In the second part, social reality informs my theoretical articulation of synergy; that being, at the empirical and analytical levels of the research. Theory is used in the articulation of the practice of synergistic value change (and visa versa) to unlock synergy both empirically and analytically. This work endeavours to address the meso-micro theory-empirical and theory-analytical non-engagement of *Māori* reflexivity and synergy. Hitherto, synergistic value change is realised by the correlation between them.

1.4.4 Research objectives

To achieve my research aim, I pursue the following four objectives:

<u>Objective 1</u>: *To formulate a macro modernity value continuum of te ao Māori and western science, in order to locate and detect synergy throughout the evolution of knowledge/value change at the conceptual research level, by carrying out four main tasks.*

Task 1: Developing heuristic devices of value comparison from a *Māori* standpoint on modernity.

Task 2: Contextualising value comparison from a *Māori* standpoint on modernity.

Task 3: Conceptualising value comparison from a *Māori* standpoint on modernity.

Task 4: Critiquing value comparison from a *Māori* standpoint on modernity.

Output: New global and national/*Aotearoa* theory-conceptual research on the macro theoretical development of synergy throughout the evolution of knowledge/value change from a *Māori* standpoint on modernity.

<u>Objective 2</u>: *To formulate a macro, meso and micro modernity value continuum of te ao Māori and western science, in order to locate and detect synergy throughout the evolution of knowledge/value change at the methodological research level, by carrying out two main tasks.*

Task 1: Theory-methodologically developing value comparison from the And/Also nuanced problem solving stance of the study.

Task 2: Theory-methodologically applying value comparison from the And/Also nuanced problem solving stance of the study.

Output 1: New global and national/*Aotearoa* theory-methodological research on the macro theory-methodological development and application of synergy throughout the evolution of knowledge/value change from the And/Also nuanced problem solving stance of the study.

Output 2: New global and national/*Aotearoa* theory-methodological research on the meso theory-methodological development and application of synergy throughout the evolution of knowledge/value change from the And/Also nuanced problem solving stance of the study.

Output 3: New global and national/*Aotearoa* theory-methodological research on the micro theory-methodological development and application of synergy throughout the evolution of knowledge/value change from the And/Also nuanced problem solving stance of the study.

Objective 3: *To apply a meso modernity value continuum of te ao Māori and western science, in order to locate and detect synergy throughout the evolution of knowledge/value change at the empirical and analytical research levels, by carrying out four main tasks.*

Task 1: Comparatively analysing the conflict and convergence of values throughout the evolution of the sustainable development paradigm in world and national/*Aotearoa* environmental governance and change.

Task 2: Comparatively analysing the conflict and convergence of values throughout the evolution of the *Resource Management Act 1991* in world and national/*Aotearoa* environmental governance and change.

Task 3:   Comparatively analysing the conflict and convergence of values throughout the evolution of environmental monitoring in world and national/*Aotearoa* environmental governance and change.

Task 4:   Comparatively analysing the conflict and convergence of values throughout the evolution of environmental performance indicator development in world and national/*Aotearoa* environmental governance and change.

Output 1: New global and national/*Aotearoa* theory-empirical and theory-analytical research on knowledge/value change throughout the evolution of sustainability from the And/Also nuanced problem solving stance of the study.

Output 2: New global and national/*Aotearoa* theory-empirical and theory-analytical research on knowledge/value change throughout the evolution of the *Resource Management Act 1991* from the And/Also nuanced problem solving stance of the study.

Output 3: New global and national/*Aotearoa* theory-empirical and theory-analytical research on knowledge/value change throughout the evolution of environmental monitoring from the And/Also nuanced problem solving stance of the study.

Output 4: New global and national/*Aotearoa* theory-empirical and theory-analytical research on knowledge/value change throughout the evolution of environmental performance indicator development from the And/Also nuanced problem solving stance of the study.

Objective 4: *To apply a micro modernity value continuum of te ao Māori and western science in order to locate and detect synergy throughout the evolution of knowledge/value change at the empirical and analytical research levels, by carrying out two main tasks.*

Task 1:   Comparatively analysing the conflict and convergence of values throughout the evolution of cross-tribal local river *kaitiakitanga* at the contemporary period of knowledge/value change in the three *Māori* river community case studies.

Task 2:   Comparatively analysing the conflict and convergence of values throughout the evolution of inter-governmental institutional environmental governance in the five environmental authority case studies.

Output 1: New national/*Aotearoa* theory-empirical and theory-analytical research on knowledge/value change throughout the evolution of cross-tribal local river *kaitiakitanga* from the And/Also nuanced problem solving stance of the study.

Output 2: New national/*Aotearoa* theory-empirical and theory-analytical research on knowledge/value change throughout the evolution of inter-governmental institutional environmental governance from the And/Also nuanced problem solving stance of the study.

In sum, I put forward the research context, questions, aim and objectives of the *Māori* reflexive viewpoint of synergy in this section.

1.5   Thesis outline

In *sub-section 5.1,* I briefly outline my theorising of synergy throughout the thesis by a comparison of the conflict and convergence of values.

1.5.1   Theorising synergy

The search for synergy unfolds in two main parts of the thesis. *Part 1* deals with the comparison of values theoretically and methodologically as a basis for correlating synergy in *Part 2* which deals with the balance of values empirically and analytically.

Considering the originality of the use of modernity theory in the thesis, I employ a gradual introduction approach. Beforehand *(Prelude),* I introduce my terms of reference (culturally and theoretically) of nuanced reality to assist the reader's comprehension of And/Also nuanced problem solving.

Through the sequential use of theoretical stages *(Tables i.i, i.iii* and *Figure i.i, Preface)* I then build in my explanation of macro theory, starting very broadly at the introductory chapter *(Chapter 1)* of the thesis. Thereof, *Chapter 1* further introduces the nuanced reality of synergistic value change. My investigation of the search for synergy by a comparison of the difference and affinity of values is generally introduced, with only a brief introduction of macro theory.

Chapter 2 expands on the macro theoretical development of synergistic value change. High abstracted hegemonic theorising of *te ao Māori* locks out a high abstracted And/Also stance on *Māori* reflexivity and synergy for theorising the subtleties of macro nuanced reality. In counter-response, I lay out my macro And/Also theorising of the *Māori* and western scientific conservation and use value continuum for locating *Māori* reflexivity and synergy within the modernity context of synergistic value change.

Chapter 3 expands on my macro And/Also theorising as kinship affiliated (termed 'insider') *Māori* researcher methodologically from macro theory down and from the practical flax roots up. The non-recognition of *Māori* reflexivity in macro thought penetrates a methodological non-engagement of knowledge/value change from methods currently used in environmental governance and change world and nation wide. My high abstracted nuanced problem solving is methodologically developed and applied to bring in a methodological re-engagement with synergy, utilising both existing and new methods on a global and national/*Aotearoa* scale. Nevertheless, And/Also cross-cuts And/Or methodologically. Hitherto, the chapter focuses on the insider researcher's downward and upward methodological struggle to move And/Or toward And/Also nuanced problem solving.

In summary, *Part 1* provides the macro modernity theory and methods for locating synergy along the *Māori* and western scientific conservation and use value continuum of the study. Thus, *Part 2* reports on the correlated findings of

synergy, as located and detected along the value continuum from growth (that is, growth over conservation and conservation over growth) to conservation (that is, conservation versus growth and growth versus conservation).

I theorise the nuanced reality of sustainability and the *Resource Management Act 1991* in *Chapter 4.* Considering the prevailing non-awareness of the reflexive potential of *Māori* adaptation in international and national terms of the sustainable development paradigm and the *Resource Management Act 1991, ngā tikanga tūpato* requires resurrection from a *Māori* reflexive stance. *Māori* reflexivity is set out through a theoretical analysis of synergistic value change in the evolution of the sustainable development paradigm and *Resource Management Act 1991* world and nation wide. By linking growth over conservation and conservation over growth in evolutionary change (generally) between global and national environmental governance, *Māori* adaptation could be realised in transitory processes of growth versus conservation and conservation versus growth; that being, from the general terms of reflexive change on a global-national scale.

In *Chapter 5,* I theorise the nuanced reality of environmental monitoring and environmental performance indicator development under the *Resource Management Act 1991.* Due to marginalised authority of *Māori*/indigenous indicators in international and national terms of environmental monitoring, it is critical that I bring forth the synergistic potential of *Māori* reflexivity in these fields of environmental study. A theoretical analysis of synergistic value change in the evolution of environmental monitoring and environmental performance indicator development world and nation wide is outlined from my *Māori* reflexive stance. Again, by linking growth over conservation and conservation over growth in evolutionary change (specifically) between global and national environmental monitoring and environmental performance indicator (EPI) development, *Māori* adaptation could be realised in transitory processes of growth versus conservation and conservation versus growth; that being, from the specific terms of reflexive change on a global-national scale.

In *Chapter 6,* I theorise the reflexive practice of inter-governmental institutional environmental governance in the five environmental authority case studies. Since the nuanced reality of synergistic value change remains unrealised at the cutting edge of the official western scientific epistemological framework of *Aotearoa* environment governance, transitory processes of synergy need to be realised from a *Māori* reflexive stance. The reflexive practice of inter-governmental institutional environmental governance is comparatively analysed at the late-modern periodic location of the five environmental authority case studies in *Aotearoa* synergistic value change. Additionally, by linking growth over conservation and conservation over growth in evolutionary change (generally) inter-governmentally*,* the reflexive reconstruction of environmental worker identity and values could be realised in transitory processes of growth versus conservation and conservation versus growth; that being, from the general terms of reflexive change on a national scale in *Aotearoa.*

I theorise the reflexive practice of cross-tribal local river *kaitiakitanga* in the three *Māori* community case studies in *Chapter 7.* As *Māori* reflexive strategies of the *Māori* people-environment relationship are continually sidelined*,* it is fundamental that I elucidate the synergistic potential of *Māori* reflexivity. The reflexive practice of cross-tribal local river *kaitiakitanga* is comparatively analysed at the late-modern periodic location of the three *Māori* river community case studies in *Aotearoa* synergistic value change. Furthermore, by linking growth over conservation and conservation over growth in evolutionary change (specifically) cross-tribally, *Māori* adaptation could be realised in transitory processes of growth versus conservation and conservation versus growth; that being, from the specific terms of reflexive change on a local community scale in *Aotearoa.*

In *Chapter 8,* I provide my concluding argument. As the thesis is driven on a *Māori* reflexive viewpoint of synergy, I give specific regard to implications of the thesis on the advancement of *Māori*. The thesis is recast in light of my conclusions of synergy. I include contributions of expanded synergistic

theorising in the thesis, drawn from the correlation between the theory and practice of synergy.

In summary, this section briefly outlined how the comparison of value conflict and convergence unfolds throughout the thesis in the search for synergy.

1.6 Conclusion

In conclusion, this chapter introduced my investigation of synergistic value change, by a comparison of value conflict and convergence. It completes the theoretical focus on value change, as carried through from the *Prelude* of the thesis.

Both the *Prelude* and *Chapter 1* provided a general introduction to the role that reflexive theorising played in my articulation of synergistic value change. The next two chapters *(Chapters 2* and *3)* introduce the theoretical focus on reflexivity, starting at the macro modernity theorising level of reflexive change in *Chapter 2*.

Chapter 2
Environment Use and Conservation Values -
A Cross-cultural Comparison

2.i Reflexivity - stage 2 of the articulation of theory in the study

In this chapter and the following (*Chapter 3)*, my theoretical argument focuses on reflexivity, as highlighted in stage 2 of the articulation of theory in the study (*Table 2.i.)*. Both chapters are theorised at the macro level of theory. The theoretical context of reflexivity is the central concern of *Chapter 2,* while *Chapter 3* deals with theory-methodological applications of reflexivity.

**Table 2.i   Stage 2 of the articulation of theory in the study -
conceptual framework**

Theoretical level	Chapters of the thesis	Theoretical focus
Stage 1		
Macro theory	Prelude - Chapter 1	Value change
Stage 2		
Macro theory	**Chapters 2 - 3**	**Reflexivity**
Stage 3		
Meso theory	Chapters 4 - 5	Nuanced reality
Stage 4		
Micro theory	Chapters 6 - 8	Reflexive practice

2.ii Stage 2 terminology - the acronyms and concepts of reflexivity

Before proceeding with my theoretical articulation of reflexivity in *Chapter 2* and *Chapter 3,* I first introduce and define the stage 2 terminology of the thesis. The acronyms and concepts of reflexivity in the study are listed in *Tables 2.iia,b (Glossaries).*

Table 2.iia   The acronyms of reflexivity in the study - definitions

Acronym	*Definition*	*Meaning*
C	*conservation*	conservation theory-category
CoG	*conservation over growth*	conservation over growth theory-category
CvG	*conservation versus growth*	conservation versus growth theory-category

acronyms continued

Acronym	*Definition*	*Meaning*
De	*detraditionalisation*	use and non-use of tradition in the reflexive re-construction of identity and values
DP	*distinguishing point*	contemporary location in late-modernity
EM	*environmental monitoring*	environmental observation or surveillance
EW	*Environment Waikato*	regional environmental authority case study
G	*globalisation*	macro multi-dimensional change
GoV	*growth over conservation*	growth over conservation theory-category
Gr	*growth*	growth theory-category
GvC	*growth versus conservation*	growth versus conservation theory-category
HCS	*Harataunga river community case study*	*Māori* river community case study
IL	*Iwi Liaison Officer*	research participant of the environmental authority case studies
NSRU	*non-specific river user*	general river user of cross-tribal river *kaitiakitanga*
OCS	*Oparau river community case study*	*Māori* river community case study
ODC	*Otorohanga District Council*	district environmental authority case study
P	*environmental planner*	research participant of the environmental authority case studies
PG	*post-materialist green*	post-materialist green category
PM	*environmental policy maker*	research participant of the environmental authority case studies
PRU	*Pākehā river user*	*Pākehā* river user of cross-tribal river *kaitiakitanga*

acronyms continued

Acronym	Definition	Meaning
R	*reflexivity*	main attribute of change, based on the active re-invention and adaptation of self-identity
RM	*reflexive modernisation*	contemporary change process
SDP	*sustainable development paradigm*	sustainability world paradigm

Table 2.iib   The concepts of reflexivity in the study - definitions

Concept	Definition
autopoesis	process of reflexive change
cohesion	the positive side or pros of experiential reflexivity
collective institutional reflexivity	representative or collective case examples of the reflexive practice of institutional consolidation
collective cross-tribal reflexivity	representative or collective case examples of the reflexive practice of socio-cultural consolidation
counter-hegemony	oppressed ideology
diverse/multi-reflexivity	specific case examples of the reflexive practice of socio-cultural consolidation
dysfunction	the negative side or cons of experiential reflexivity
epochal change analysis	diagnosis and prescription of periodic change
epochal contours	multi-dimensional shape of change
fluidity	reflexive negotiation of the use and non-use of tradition in detraditionalisation
globalisation	macro multi-dimensional change
hegemony	dominant ideology
holistic relations	defining term for the non-modern epochal change context
informational reflexivity	accommodation processes of knowledge/value change
Kaupapa Māori-And/Also	counter-hegemonic stance of *Kaupapa Māori* research
Kaupapa Māori-And/Or	oppositional stance of *Kaupapa Māori* research
Kaupapa Māori research	leading *Māori* research approach of *Aotearoa* social science research

concepts continued

Concept	Definition
late-modernity	contemporary time period
modern	period of enlightenment
modernisation	modern change process
mono-cultural	dominant culture
multiple apprenticeships	personal and *whānau* trials and tribulations of life learning
multiple modernities	non-western viewpoint of modernity
multi-reflexivity	specific case examples of the reflexive practice of institutional consolidation
non-modern	non-western world
non-modernity	pre-enlightenment era
performance	conservation oriented viewpoint of the environment
performativity	growth oriented viewpoint of the environment
risk society	contemporary period of risk
simple modernisation	modern change process
whakawhānaungātanga *(three main levels)*	- multiple inter-connections of detraditionalisation
- prior whakawhānaungātanga (level one)	- benchmarking of one's engagement of detraditionalisation
- immediate whakawhānaungātanga (level two)	- immediate engagement of detraditionalisation
- consolidated whakawhānaungātanga (level three)	- engagement of the cohesive and dysfunctional processes of detraditionalisation

2.iii   Stage 2 of my *Māori theorising of theory and reality*

As highlighted from the outset *(Prelude),* I put forward a two-sided *Māori* viewpoint of theory and reality, whereby theory (or *'side a')* informs my articulation of reality (or *'side b')* in stages 1 and 2 of the thesis *(Prelude* and *Chapters 1 - 3);* and social reality (or *'side b')* informs my theorising of theory (or *'side a')* in stages 3 and 4 of the thesis *(Figure i.i.).* Thus, these two chapters *(Chapters 2* and *3)* further expand on the theoretical articulation of reality, as highlighted at stage 2 of my *Māori* theorising of theory and reality. This is depicted in the schema in *Figure 2.i,* which was used in the *Prelude* as *Figure i.i.*
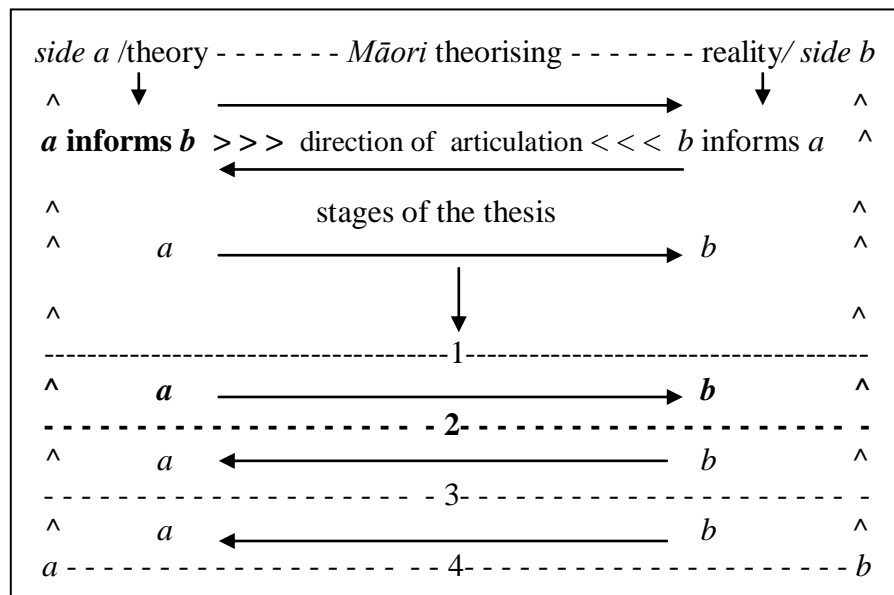
Figure 2.i   Schema of my *Māori* theorising of theory and reality - stage 2: where theory (side a) informs social reality (side b)

2.iv   The stage 2 whakatāukī of the study and my pro-Māori use of theory

The thesis began with an overview of my pro-*Māori* use of theory *(Preface)*, drawn upon the thematic development of *Māori whakatāukī*, whereby one of them (*'E tipu, e rea, mō ngā rā o tōu ao; ko tō ringa ki ngā rakau a te Pākehā hei ora mō to tinana, ko tō ngākau ki ngā taonga a ō tīpuna hei tikitiki mō tō māhunga, ā ko tō wairua ki te Atua, nāna nei ngā mea katoa',* 'Grow and branch forth for the days of your world; Your hand to the tools of the *Pākehā* for the welfare of your body, Your heart to the treasures of your ancestors as adornments for your head, Your spirit with God, who made all things') embraces the others. To me, it encompasses my pro-*Māori* theoretical emphasis on 'progress forward and *Māori* reflexivity' or the main *whakatāukī* of the study *(Table 2.iii).*

Furthermore, the next two chapters commence with the *Māori whakatāukī 'E kore ahau e ngaro, he kakano i ruia mai i Rangiatea',* 'I will not disappear, the seed broadcast from *Rangiatea,* heaven'. In my viewpoint, it encapsulates a pro-*Māori* theoretical emphasis on 'an evolutionary viewpoint of *Māori* reflexivity', as defined in terms of the six main attributes at stage 2 of the thesis *(Table 2.iii).* I elaborate on the stage 2 *whakatāukī* of the study in *Appendix i.ii.*

Table 2.iii   Overview of my pro-*Māori* use of theory and theoretical argument of the study - conceptual framework/ stage 2

Issues	Actions	Outcomes	Limitations	Implications	Future Research
Issues	*Actions*	*Outcomes*	*Limitations*	*Implications*	*Future Research*
Main attributes of the theoretical argument					

Issues	*Actions*	*Outcomes*	*Limitations*	*Implications*	*Future Research*
Main whakatāukī, proverbial theme - 'Progress forward and Māori reflexivity'					
PART 1: COMPARISON OF VALUES					
Stage 1 whakatāukī, proverbial theme - 'The synergistic potential of Māori reflexivity'					
contesting value systems	*Māori* theorising of the difference and affinity of values	synergistic approach	unrealised potential of synergy	reconciliation of values	reconciliatory approaches
Stage 2 whakatāukī, proverbial theme - 'An evolutionary viewpoint of Māori reflexivity'					
reflexive change	***Māori* theorising of reflexive change**	***Māori* viewpoint of reflexive change**	***te ao Māori* as non-reflexive**	**reflexive processes of cultural loss and cultural survival**	***Māori* adaptive strategies of cultural loss and survival**
PART 2: BALANCE OF VALUES?					
Stage 3 whakatāukī, proverbial theme - 'The adaptive strength of Māori reflexivity'					
nuanced reality of synergy	*Māori* theorising of nuanced reality	*Māori* viewpoint of nuanced reality	oppositional theorising	nuanced reality of oppositions and similarities	nuanced problem solving
Stage 4 whakatāukī, proverbial theme - 'The adaptive endurance of Māori reflexivity'					
reflexive practice of synergy	*Māori* theorising of reflexive practice	*Māori* viewpoint of reflexive practice	one-sided viewpoint of reflexive change	reflexive practice of cultural loss and survival	*Māori* reflexive practice of cultural survival and loss

2.1 Introduction

In *Chapter 1,* I lay out a modernity conceptual framework for articulating modernity as a context for understanding the scope and limits of seeking a synergy of indigenous-based knowledge and values with those of western scientific knowledge and associated institutions for environmental governance.

My initial *Māori* storytelling introduced the *Māori* reflexive stance of the study. In this chapter, I articulate a *Māori/*indigenous viewpoint of change that underpins the theoretical framework of modernity. This contribution is needed to compensate for the relative neglect of understanding of indigenous ontologies and the impact of modernisation by dominant theorists in the theoretical grid of modernity.

Through *Māori/*indigenous theorising 'in' change, the contemporary phenomena of synergistic value change can be realised. However, the *te ao Māori* paradigm is continually theorised from a past-based perspective embedded in tradition. Much conceptual vocabulary for theorising modernity perpetuates past-driven based thinking. In the chapter I aim to theoretically re-locate the conflict and convergence of values in the process of change, so that a contemporary *Māori/*indigenous viewpoint on values is incorporated into the discourse, in order to highlight the potential for synergy in the present and future practice of environmental governance.

Due to the existing mono-cultural[39] theoretical basis of modernity theory, this chapter gradually builds in a cross-cultural viewpoint of synergistic value change. The starting point of the chapter is the theoretical articulation of a *Māori* location 'in change'. I then briefly introduce how the evolution of the *Māori* and western scientific paradigms are analysed in a modernity conceptual framework of epochal change. The remainder of the chapter explains the uses of epochal change analysis to locate synergistic value change.

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[39] In this research, mono-culturalism refers to the dominant culture of society (Ritchie, 1988; 1992). In *Aotearoa,* the dominant cultural group are termed *Pākehā* or western Europeans.

2.2 *Māori* location in change

The following sub-sections identify my *Māori* reflexive standpoint on modernity. In the next section, I introduce the *Māori* modernity theorising of the study.

2.2.1 *Multiple modernities - challenging modernity*

> To situate the non-western world firmly within the ambit of a second modernity, rather than of tradition, allows a pluralisation of modernity, for it opens up space for the conceptualisation of divergent trajectories of modernities in different parts of the world. This idea of multiple modernities recalls Nehru's image of a 'garb of modernity' that can be worn in a number of ingeniously different ways (Beck, 1999: 6).

The theorising of *te ao Māori,* in terms of modernity brings the development of a *Māori* location in change and takes the form of what Beck (1999) refers to as 'multiple modernities'. The idea of 'multiple modernities' involves theoretical problem solving which gives a voice to the non-western world (Battiste, 2000; Battiste et al., 2000; Sen, 1998; and Shiva, 1993; 1995). Beck (1999) suggests that alternatives (that is, the non-western world) challenge modernity through their own pathway of multiple reflexive constructed realities. By its own journey, other stories are revealed from around the world. In Beck's terms, therefore, my telling of the journey of *te ao Māori* exemplifies one story of multiple modernities.

Again, although I am informed by advocates (that is, Beck and other modernity theorists) of multiple modernities and other related terms such as the 'third space' (Bhabha, 1996) and 'ethnogenesis' (Roosens, 1996), it is important to tell my own story as these non-*Māori* theorists theorise from their own cultural frames of reference. Rather, I theorise with my own *Māori* terms of reference. By providing my own explanation, I seek to prevent representation of *te ao Māori,* as 'the other' (Bishop, 1997a; 1997b; 2005; Freire, 1972; Irwin, 1994; Smith, 2005; 1992; and Stokes, 1998). In this way it is less likely that *te ao*

Māori will be evaluated or characterised by hegemonic[40] categories. Instead, *te ao Māori* is considered from its own cultural matrix.

2.2.2 Theorising te ao Māori and modernity

A serious theoretical problem preventing wider theorising of *te ao Māori* and modernity is the apparently locked-in location of the non-western world in tradition and consequential locking out from reflexivity (Battiste, 2000; Battiste et al., 2000; Beck, 1992; 1995; 1998; Beck et al., 1994; and Giddens, 1990; 1991; 1996). Much theorising about the non-western world is kept within the bounds of old and re-invented tradition (Battiste, 2000; Battiste et al., 2000; Castells, 1996; 1997; 1998; and Smith, 1999). This denies the capacity of *Māori* reflexivity. Overall, it justifies the non-participation of indigenous knowledge and exclusion of *Māori/*indigenous peoples from participation in governance in order to assert their indigenous knowledge and values on par with the hegemonic state order (Friend, 1997; and Havemann, 2002b).

Most relevantly, tradition can be used as a double-edged sword, and is used by some western theorists to theorise tradition as a bastion against change (Escobar, 1995; Offe, 1996; Rist, 1997; and Wallerstein, 1974; 1980). This defence of status justifies its overthrow in the name of change. Tradition is depicted as unchanging, reactive and even reactionary. Hence, the reflexive and pluralistic capacities of the re-invention of tradition are ignored (Escobar, 2001; and Heelas et al., 1996). Such theorising pits tradition against change (Havemann, 1997; and Simon, 2006f; 2006g). The key effect being to block recognition of the cultural reflexivity that enables traditions to be constantly questioned and reinvented. Consequently, the dominant or mono-cultural viewpoint identified with change is affirmed and alternatives are shut out as anachronistic and opposed to change.

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[40] In this research, hegemony refers to a dominant ideology in which people consent to their own coercion. Historically, hegemony derived from Gramsci's (1891-1937) political writings on capitalist society. For further details see Gramsci 1977; 1995.

In sum, the key starting point from which I build my theorising of knowledge/ value change is a *Māori* standpoint on *Māori* reflexivity and modernity. In seeking to prevent the *Māori/*indigenous viewpoint from being locked into the bounds of tradition and dislocated from modernity, it is important to begin by situating *te ao Māori* within a wider historical context, a context which encompasses modernity (Havemann, 1997; Inglehart, 1997; and Simon, 2006f; 2006g). From such a perspective, hegemonic thinking about tradition can be re-thought. Thereby, the political forum of environmental governance and management may be encroached by the reflexive potential of *te ao Māori* (Simon, 2007a; 2007b; 2007c).

2.3 My *Māori* modernity theorising

This section identifies important tenets of my *Māori* modernity theorising. The following section introduces the theoretical applications of reflexive theorising in the study.

2.3.1   *Reflexivity and paradigms*

I draw on Kuhn's (1977) paradigm concept to theorise the reflexive re-construction of the *te ao Māori* and western scientific knowledge paradigms. My primary interest in Kuhn's paradigm thinking is that the essence of a period of history can be captured through identification of the main attributes of a paradigm. Kuhn called the reflexive process of changing or altering main attributes a 'paradigmatic shift'. This theorising of reflexivity and paradigms is the main influence from Kuhn's work, applied in my analysis of periodic or epochal change.

2.3.2   *Paradigmatic shifts - attributes of change*

In this research, paradigmatic shifts are ascertained by the changing attributes of *Māori, ngā tikanga tūpato* and western scientific conservation and use values.

Hence, the *te ao Māori* and western scientific knowledge paradigms are characterised by their main attributes, as summarised in *Tables 2.1a,b.*

Table 2.1a   *Te ao Māori* - characteristic framework

main attribute	Definition
aroha	loving side of human-environmental relationship
kaitiaki	caring or stewardship role of humans with the environment
kotahitanga	unity and interconnectedness between all living and non-living things
manaaki	caring and feeling side of human-environment relationships
mauri	life-essence or life-force of living things
wāhi tapu	sacred places of spiritual sanctity, respect and honour
wairua	spiritual side of the living and non-living worlds
whakapapa	family interconnections between humans and the environment
whānau	togetherness or 'familiness' of all living and non-living things

Table 2.1b   Western scientific knowledge - characteristic framework

main attribute	Definition
anthropocentrism	human-centred world-view
biological determinism	bio-physical world-view
dualism	the division between mind and matter
economic determinism	economic-centred world-view
empiricism	hypothetical-inductive reasoning
individualism	person/self-centred world-view
mechanism	mechanistic world-view
reductionism	compartmentalisation and segmentation

In this study, the above simple definitions are sufficient for my research purposes of representing the core framework of these paradigms in paradigmatic shifts. Later in the chapter, I consider their changing constitution in paradigmatic shifts over time. This is further examined in *Chapters 4 - 7.*

2.3.3   Key modernity terms

To articulate reflexive processes of paradigmatic shifts, I draw on my own use of modernity terms. In this study, nine key modernity terms are employed in my theoretical articulation of reflexivity *(Table 2.2)*.

Table 2.2   The nine key modernity terms of the study - definitions

Term used	Attribute of modernity	Derivative
detraditionalisation	re-invention of tradition	indigeniety, ethno-genesis, third space
globalisation	multi-dimensional change	modernisation
late-modern	contemporary world	second modernity, risk society, post-traditional society, information age, network society, biotechnology age
modern	western world	enlightenment, positivistic scientism
non-modern	non-western world	pre-modern
reflexive modernisation	late-modern change process	modernisation
reflexivity	adaptive process of change	modernisation
simple modernisation	modern change process	modernisation
traditional	old change process	modernisation

As exemplified in the above definitions of modernity terminology, each one originates from a main derivative of modernity theory. This brief overview is only intended to introduce their usage in the study. A more detailed account of them follows.

2.3.4   Te ao Māori and non-modern

Importantly, the modernity term for *te ao Māori* is 'non-modern', instead of pre-modern; this being the hegemonic and derogatory category for the non-western world (Beck, 1999; and Giddens, 1996; 2001). Hence, I aim to both differentiate and align *te ao Māori* through my use of non-modern. Through the usage of non-modern in the study, differentiation aims to preserve the uniqueness of *Māori* reflexivity. By contrast, non-modern alignment seeks to align *te ao Māori* within similarity/affinity discourse of synergistic value

change occurring between indigenous knowledge and western scientific knowledge paradigmatic shifts, both of which are reflexive.

These sections introduced the major tenets of my articulation of *te ao Māori* in synergistic value change, including a *Māori* theoretical location as reflexive and non-modern. Such theorising involved recognising multiple realities subject to change through paradigmatic shifts. Having established the essential basis of my *Māori* modernity theorising, the next section expands on its applications.

2.4 Epochal change - major theoretical applications

In this section, I lay out my major theoretical applications of reflexivity from which synergy is located in epochal or periodic change. Building on this theoretical platform, the next section specifies key applications of reflexive theory, in my subsequent application of epochal contour analysis to locate synergistic processes of reflexive change.

2.4.1 Reflexive modernisation (RM)[41] and synergy

Synergy, it is proposed, is taking place in the contemporary change process of reflexive modernisation - the most relevant theory in current use of modernity (Beck, 1992; 1999; Beck et al., 1994; Bocock et al., 1992; and Giddens, 1996; 2003). Reflexive modernisation refers to the new and revolutionary reflexive process of change now altering and transforming modernity. In reflexive modernisation, it is argued that the modern era has refracted upon itself (as the term reflexivity implies) as a consequence of the failing capabilities of 'modern' industrial growth and development underpinned by western scientific knowledge.

The downfall of 'modern' or western scientific knowledge-based answers to contemporary reality has not eventuated in the demise of modern institutions,

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[41] Reflexive modernisation (RM) is a term used to describe the revolutionary change process of modernity of the present times. However, reflexive modernisation has also been used to represent the present period (rather than process) of modernity also known as: Second modernity, Late-modernity, Risk Society, Post-traditional society, Network society, Information age, and the Biotechnology age (Beck, 1992; 1995; 1997; Beck et al., 1994; Castells, 1996; 1997; 1998; Giddens, 1990; 1991; 2003; O'Brien, 1995; Lash et al., 1992; Rifkin, 1983; 1992; 1998; 2000; and Taylor, 1999).

but rather has influenced the development of their radicalisation, or as Giddens and others have put it 'the modernisation or radicalisation of modernity' (Beck et al., 1994; and Giddens, 1996). For reflexive modernisation theorists, such epochal reflexivity signifies a new revolutionary change process of modernity that must now be realised.

The key focal point of synergy in this study is the western scientific knowledge and indigenous knowledge paradigmatic shifts occurring in reflexive modernisation. Most crucially, increased questioning of the western scientific knowledge paradigm has brought a new awareness of alternative worldviews, such as the indigenous knowledge paradigm.

Centrally, reflexive modernisation paradigmatic shifts include both the acknowledgement and incorporation of indigenous knowledge and values into the epistemological framework of environmental management and governance regimes historically dominated by western scientific knowledge and values alone (Castells, 2004; Havemann, 1998; Howitt, 2001; and Heelas et al., 1996). My theoretical articulation of reflexive modernisation and synergy is schematically framed in *Figure 2.1*.
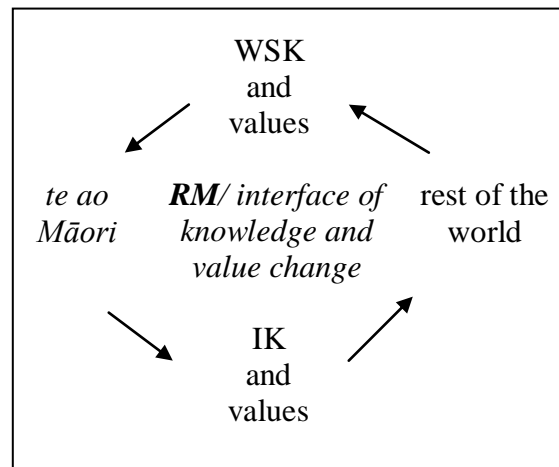
Figure 2.1   Schema of RM and synergy

As shown in the above schema *(Figure 2.1),* reflexive modernisation paradigmatic shifts are articulated in a continual state, as indicated by the interconnected flow of factors of the worldviews; that is, *te ao Māori* as distinguished from the rest of the world; and the indigenous knowledge and western scientific knowledge paradigms. At the core of reflexive modernisation paradigmatic shifts is the reflexivity that generates shifting paradigms, that are identifiable at the interface of knowledge and value change. Overall, it is proposed that synergy occurs at this location, of shifting paradigms, as diagrammatically represented in the middle of *Figure 2.1;* that is, where change, knowledge and values intersect.

To date, only a few writers of reflexive modernisation consider reflexive modernisation paradigmatic shifts of western scientific knowledge and indigenous knowledge paradigms (Castells, 2004; Castells et al., 2004; and Havemann, 2002a; 2002b) and none of them are *Māori* writers. Instead, reflexive modernisation theorists have been preoccupied with the realignment of western scientific knowledge throughout the 'rest of the world'. Much attention remains on world environmental governance and management developments pertinent to western scientific knowledge paradigmatic shifts,[42] although a growing interest has evolved regarding indigenous knowledge paradigmatic shifts reflected in global environmental governance principles.[43]

No scholarly works on western scientific knowledge and indigenous knowledge paradigmatic shifts locate these theoretically in reflexive modernisation or focus at both the international and national levels of environmental monitoring and environmental performance indicator development. Therefore, it is intended that my theorising of *te ao Māori,* in reflexive modernisation, contributes to original, realigned thinking, about the synergistic potential of indigenous knowledge and western scientific knowledge.

2.4.2 *Reflexive modernisation and Māori development*

The most significant use of reflexive modernisation is that it brings my *Māori* reflexivity theorising into crucial engagement with contemporary change, currently transforming modernity. To my knowledge, there have only been a few instances of similar consideration of *te ao Māori* and reflexive modernisation (Havemann, 1999; 2000b) with few theoretical works by *Māori* writers (Meredith, 1998; 2001). Considering the magnitude of the implications of reflexive modernisation on our people (and all peoples of the world), it is important to rectify the evident lack of a *Māori* perspective on the impact,

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[42] Such events of importance to western scientific knowledge paradigmatic shifts include the 1970's State of the Environment Report (Meadows et al., 1972), Agenda 21 (1992) and the Rio Declaration (1992). For further details see *Chapters 4* and *5.*

[43] Such events of importance to indigenous knowledge paradigmatic shifts include The Rio Declaration (1992, principle 22), Agenda 21 (1992, Chapter 26), Convention on Biological Diversity (1994, articles 8(j), 10c and 10d), *Resource Management Act 1991* (the *Māori* provisions), Royal Commission on Genetic Engineering (2001, *Māori* values survey) and Ministry of Environment, environmental performance indicator programme (1997 - 2003, *Māori* indicators). For further details see *Chapters 4* and *5.*

nature and form of reflexive modernisation. For wider realisation of the impacts of reflexive modernisation on *te ao Māori,* and greater representation of our own people's contemporary realities, more *Māori* writing on reflexive modernisation is greatly needed.

2.4.3 My Māori theorising of reflexive modernisation

I draw on reflexive modernisation theory to inform my articulation of a *Māori* location in the contemporary process of change. The most relevant theoretical works for understanding the present reality of this changing world are the works of Giddens on post-traditional society, late modernity and reflexive modernisation (Giddens, 1990; 1994; 2003), of Beck on the risk society, reflexive modernisation and second modernity (Beck, 1992; 1995; 2000), of Castells on the information age and network society (Castells, 1997; 2002; 2004) and of Rifkin on the biotechnology age (Rifkin, 1992; 1998). It is not my purpose to go into their theoretical writings in depth or detail. Instead, they are used as exemplars of contemporary writing about change from which I locate and develop my own theorising about value change.

I am especially informed by reflexive modernisation theoretical insights on the revolutionary transformation of western scientific knowledge in reflexive modernisation according to Giddens's globalisation, detraditionalisation and social reflexivity[44] (Giddens, 1990; 1991; 1996) and Beck's globalisation, social reflexivity, organised irresponsibility and social explosiveness of hazard[45] (Beck, 1995; 1997; 1998; 1999). His theorising about the reorientation or realignment of western scientific knowledge is especially relevant in this research and hence they merit some critique and analysis.

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[44] In this research, social reflexivity refers to an intensified state of the reflexive construction of identity. Further discussion on social reflexivity follows.

[45] Both the organised responsibility and social explosiveness of hazard concepts refer to the breakdown and inadequacy of modern environmental institutions. For further details see *Chapters 4 - 7.*

2.4.4 Epochal development - introduction

Although I draw from the above mentioned theorists of reflexive modernisation, I use my *Māori* theorising lens to examine change processes involving the conflict and convergence of values. The evolution of values is outlined through a periodic categorisation of change by epochs of an historical trajectory of modernity. Three major periods of the non-modern, modern and late-modern epochs are identified. Altogether, the epochs are theorised in terms of an overall theoretical context for analysing value change.

2.4.5 Pre-modern thinking and difference/distinction discourse

The most relevant aspect of epochal development is that it brings *te ao Māori* cultural and epistemic realities to light and out from the obscurity created by hegemonic thinking associating tradition with pre-modernity (Beck, 1992; 1999; Giddens, 2003; and Hall et al., 1992a). Depicting this reality as pre-modern has several implications. Firstly, the pre-western world is understood as backward, locked in past traditions. Secondly, pre-modern tradition is seen in terms of some sort of fixed, unchanging and distinct existence. Lastly, the pre-modern is not reflexive. Responses to change are therefore not examined.

Most significantly, the pre-modern categorisation has tended to emphasise *Māori/*indigenous people's resistance to change (Battiste, 2000; Batiste et al., 2000; Fleras et al., 1992; *Maaka* et al., 2005; and Webb, 2003). Although the resistance tendency highlights important differences and distinctions, it fails to acknowledge the adaptive strategies employed by *Māori*/indigenous peoples over time, strategies that have been associated not only with resistance, but also with reconciliation (Condliffe, 1971; Harre, 1996; and *Ngata,* 1901; 1940).

Indeed, *Māori* reflexivity encompasses a highly reflexive response to the need to adapt ontologies to changed circumstances, including the appropriation of *Pākehā* discourse, knowledge and technology. In this sense, the type of emphasis seen in difference/distinction discourse is a partial representation only of the response of *Māori/*indigenous people.

2.4.6 Modern thought and difference/distinction discourse

Such thinking about the non-western world as pre-modern legitimises in modern thought the perpetuation of difference/distinction discourse imbued with assumptions about racialised hierarchies and Social Darwinist justifications for the inferiorisation of the pre-modern 'other' (Beck, 1992; 2000; Giddens, 2003; and Hall et al., 1992a). These accounts, though largely confined to the evolution of the 'euphoric period' of positivistic scientism or western enlightenment, commonly referred to as the 'modern' (industrial) era appear to have significant popular appeal (Escobar, 1995; and Rist, 1999). Indeed, that appeal could even be said to be associated with some degree of ideological indoctrination (Baumann, 2000; Gilbert, 1997; and Offe, 1996).

Modern thinking is greatly hampered by the persistent failure to account for and accommodate value change (Beck, 1992; 1999; 2000; Giddens, 1996; and Offe, 1996). Instead, there is constant revamping of 'modern' explanations for change, explanations that are inadequate in that they are locked into 'modern domain thinking' and are based on concepts of certainty and fixity that are wholly unable to accommodate the realities of the change process (Held et al., 2000; Ho, 1998; 2000; Lash et al., 1992; Taylor, 1999; and Wallerstein, 1974; 1980). This perception largely ignores the process of transition that has inevitably affected the entire spectrum of knowledge and values. If this is to be remedied, the reasons for it need to be understood and strategies for acknowledgement need to be put into place.

2.4.7 Epochal development framework

Conceived in this way, 'recollections' of pre-modern and modern history have tended to reinforce the common perception that there was, at the beginning of the modern era, an epistemological chasm between the indigenous and western scientific knowledge paradigms. It is important, therefore, to relocate both eras conceptually, to place them firmly within the framework provided by modernity (as outlined in *Figure 2.2)* and, in doing so, to attempt to redress the problems that are associated with those historical interpretations that are

dominated by a type of thinking that emphasises difference and distinction at the expense of similarity and affinity.
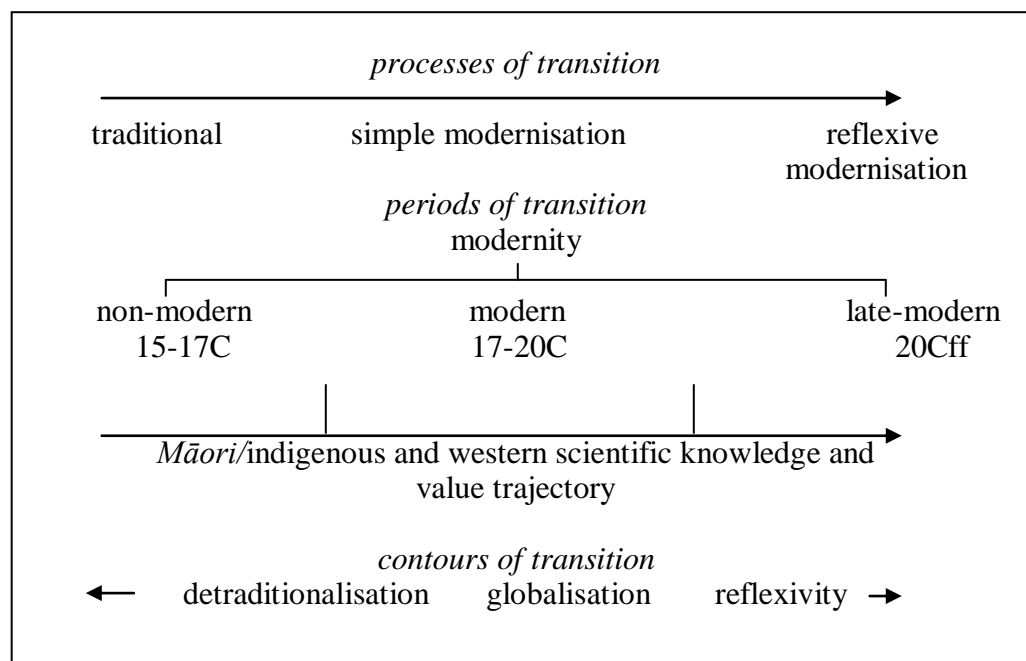
Figure 2.2   Values and modernity - epochal development framework

At the macro level of modernity, it involves broadening and reconceptualising thinking about the *te ao Māori* and western scientific knowledge paradigms so as to take more account of 'non'[46] and 'post'[47] western development modernisation thinking. In other words, what is proposed is a realignment that involves taking into account perspectives other than the modern-oriented perspective based on difference/distinction and, in this way, reducing that sense of epistemological divide that poses a threat to processes of reconciliation.

In *Figure 2.2* the conflict and convergence of values are seen in terms of an historical trajectory of ideas extrapolated from the periodisation of *Māori/*indigenous society alongside western European society. The *Māori/*indigenous and western European historical trajectory is characterised by periods of transition and by transitive processes. Both cultures are seen as having been affected by three primary attributes of modernity:

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[46] Refers to before the 'modern'.
[47] Refers to after (not the finish) of the 'modern'.

detraditionalisation,[48] globalisation[49] and reflexivity[50] (identified as the contours of transition).

Thus, *Figure 2.2* presents a trajectory of ideas *(Māori/*indigenous and western European) as they evolve over time and space. Modernity is associated with the processes, periods and attributes (contours) of transition. In this research, my primary interest - the period that has been described as late-modernity - is seen as a stage in the processes of transition that has characterised knowledge and value systems from the non-modern period through the modern period to the late-modern period.

In *Figure 2.2,* modernity (periods of transition) and modernisation (process of transition) relate to different attributes of the development of 'modern' societies. Although they are often seen as synonymous, Offe (1996) highlights an important distinction between modernisation as a historical-sociological process connoting an idealised view of progress and 'westernisation' and modernity within social-scientific research as a sceptical self-scrutiny of the normative premises, structures and features of already 'modern' societies (Offe, 1996: 4).

Similarly, when the term 'modernisation' is used here it does not mean progress or development in relation to 'western' economic triumphalism (Havemann, 1997: 18). Also, this is a sceptical self-scrutiny of the contemporary dystopian and utopian trajectory of modernity in terms of

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[48] 'Detraditionalisation' and 'retraditionalisation' occur concurrently during the process of reflexivity. They refer to 'the liberation from some traditions (detraditionalisation) and the ability to construct new ones (retraditionalisation)' (Havemann (1997: 23). Also see, Heelas et al., 1996). In this research, detraditionalisation refers to both of these processes of reflexivity in the re-construction of *Māori* identity.

[49] 'Globalisation' is considered to be the all-embracing attribute of modernity. The all-encompassing nature of globalisation is usefully captured in the following definition of globalisation as 'a transformation in the spatial organisation of social relations and transactions - assessed in their extensity, intensity, velocity and impact - generating transcontinental or interregional flows and networks of activity, interaction and the exercise of power' (Held et al., 2000: 25).

[50] 'Reflexivity' (referring to a process that can be applied to itself) is arguably the main concept of late modernity at the epochal and self/collective levels. A person, or a discourse or system, can analyse itself and can, therefore, confront and change itself (Luhmann, 1985; 1989).

ecological and cultural change, as exemplified in the *Māori* and western scientific knowledge and value trajectory.

Epochal development or periodisation is a technique for analysing the evolution of ideas; and socio-cultural, political-legal, ecological and economic processes. This has the advantage of diagrammatically representing salient aspects of the change process. Like a map or other heuristic device, it provides an overall topographical picture of key features of 'reality'. By having an overall map of 'reality', the new context can be explained through its development from the old context.

Epochal development also brings the advantage of analysing *te ao Māori* in terms of its changing institutional order across time and space. This is because epochal development accommodates the cultural, political, economic and technological - and hence the ecological. Rather than *Māori/*indigenous society being a 'pure form' (Bauman, 1997; 2000; 2003; Beck, 1992; and Giddens, 1990), it can be developed as a politically and territorially constituted system. Hence, *'Māori/*indigenous society' is not seen as an 'object' of the research. Instead, *te ao Māori* is developed in terms of *Māori* agency or subject in a shifting mode of cultural institutional articulation with the state.

The potential disadvantage of epochal development is that the transitions between epochs, depending on the attributes chosen, appear to illustrate ruptures. However, the ruptures are never clean cut, but are uneven and dependent on time and place (Giddens, 1990; O'Brien, 1995; and Taylor, 1999). Also, epochal classifications are limited to the epochal development framework. Hence, epochal analysis of inevitability in the epochal space beyond late modernity, termed 'liquid modernity', is left out (Bauman, 2000; 2003). Therefore, periodisation is only suggestive and always contestable.

2.4.8   Contours of epochal change

In order to enlarge on the multiple dimensions of the context in which value change is taking place, further elaboration of the general classification by epoch that has already been provided here is required. To analyse the multi-dimensional context of modernity, I draw primarily on the contours of epochal change.

The contours (reflexivity, detraditionalisation and globalisation) of transition are the main attributes of modernity, conceived as dynamics of change, that I draw on to analyse the multi-dimensionality of value change. All attributes are considered to have multi-institutional (political-legal, economic, socio-cultural and ecological) effects and manifestations as ascertained in their altering forms across epochs. Altogether, they shape and are shaped by the contours of each epoch constituted by them.

The contours of epochal change can be divided into two main levels of multi-dimensionality; these being, the macro and micro shape of change levels. My articulation of the multi-dimensional shape (contours) of change is schematically outlined in *Figure 2.3.*

As indicated in the above schema of the multi-dimensional shape of change *(Figure 2.3),* globalisation encompasses multi-institutional (political-legal, cultural, economic and ecological) effects of change at the macro level of modernity; and reflexivity and detraditionalisation encapsulate multiple effects of micro level change on the construction of identity and values.

Taken together, these three attributes of the epochal contours provide an all-encompassing representation of multi-dimensional change in the study.
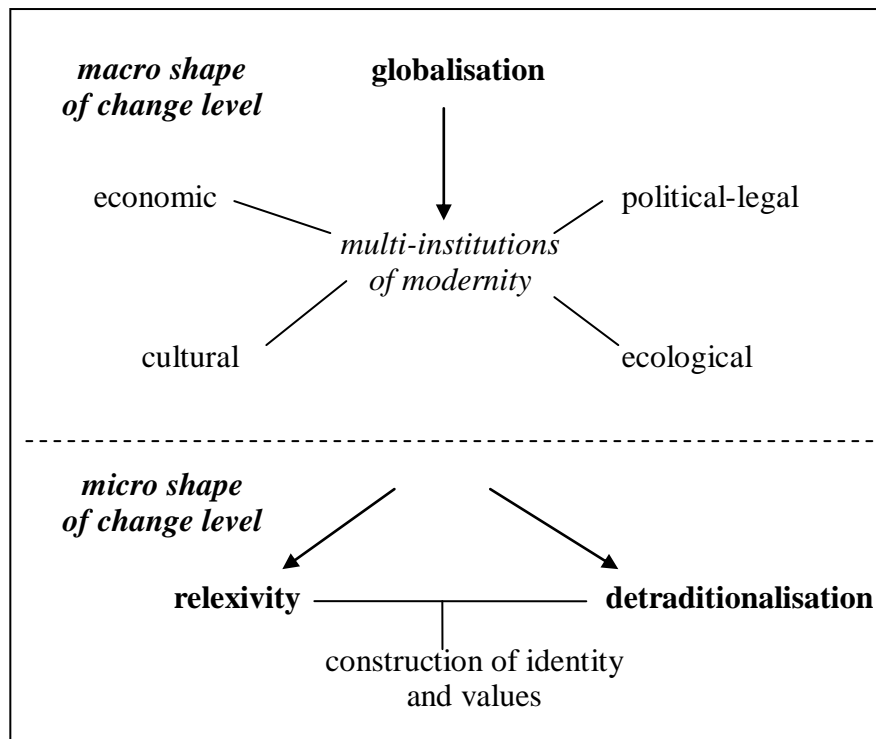
**Figure 2.3   Schema of multi-dimensional shape
(contours) of change**

Overall, this section introduced my major theoretical applications of reflexivity theory, as more specifically detailed in the next section *(2.5)*.

2.5   Specifics of reflexive theory and the epochal contours

Sub-sections *2.5.1 - 2.5.3* identify the specifics of reflexive theory in my analysis of the epochal contours. The following final section of the chapter outlines how epochal change analysis is applied to locate synergistic processes of reflexive change.

2.5.1   *Distinguishing the epochal contours and multi-dimensionality*

Specifically, it is through distinguishing the multi-dimensionality of the epochal contours that synergy can be located from one's location in late-modernity - referred to here in terms of the 'distinguishing point' (DP). As already established, globalisation (G), detraditionalisation (D) and reflexivity (R) encompass the multi-dimensionality of the epochal contours. Indeed, each one cross-cuts the other over time. Such reflexivity is more specifically

examined to distinguish the multi-dimensional processes of reflexive change at the distinguishing point (DP) of late-modernity. My theoretical articulation of reflexive processes of multi-dimensionality in epochal contour analysis is schematically framed in *Figure 2.4.*
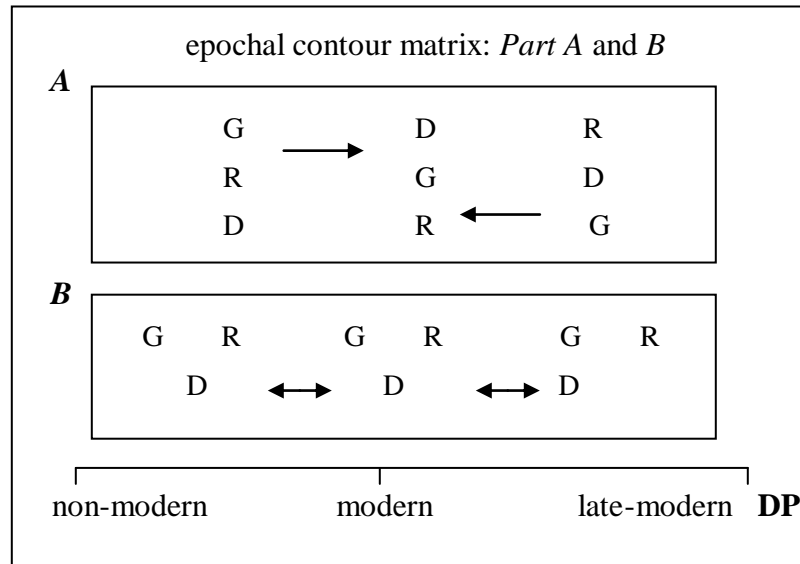
Figure 2.4   Schema of reflexive processes of multi-dimensionality in epochal contour analysis

Explanatory caption	
symbol/acronym	*meaning*
A	- epochal contour analysis across and throughout modernity
B	- epochal contour analysis between epochs of modernity
D	- detraditionalisation
DP	- distinguishing point of epochal contour analysis; that being, at late-modernity
G	- globalisation
R	- reflexivity
⟶	- direction of epochal contour analysis; that being, across and throughout modernity
⟷	- direction of epochal contour analysis; that being, between epochs of modernity

As demonstrated in the above schema of epochal change, I (researcher) am located at a distinguishing point (DP) in late-modernity from which the epochal contours - as conceptually framed in terms of epochal contour matrix A and B, are distinguished. At the distinguishing point of late-modernity, the important theoretical principles of multi-dimensional change are the changing spatio-temporal dimension; the ubiquitous and pervasive nature of institutional dimensions of modernity; the cross-cutting or interweaving of institutional dimensions between epochs; and the prevalence within multiplicity of complexity, uncertainty and contradiction (Beck et al., 1994; Giddens, 1996; Held et al., 1989; and Rogers-Hayden, 2004).

In the study, these principles of multi-dimensionality are addressed through a two-part analysis of the epochal contours, framed here as epochal contour matrix A and B *(Figure 2.4)*. On one side, the overall capacity of multi-dimensional value change requires analysis across and throughout the entire continuum of modernity. This refers to epochal contour matrix A, whereby the epochal contours crosscut epochs - as illustrated by the opposite arrow directions across epochs. The reference to the transition between simple and reflexive modernisation in the study is a prime example here as both change processes occur simultaneously from the distinguishing point of late-modernity.

In comparison, multi-dimensionality needs more detailed critiquing for locating synergistic value change. This pertains to epochal contour matrix B, in which the epochal contours can be distinguished between and within epochs - as exemplified by the opposing connected arrows between epochs. Upcoming discussion of the section deliberates on the modernity concepts of the study used for this purpose. Altogether, both epochal contour matrix A and B encapsulate how I distinguish multi-dimensional processes of reflexive change from the distinguishing point of late-modernity in the study.

2.5.2 *Epochal contour terminology - theoretical specifics of reflexivity*

> . . . reflexive monitoring of action, the process by which humanity keeps in touch with the grounds and reasons for its actions, as an integral element of doing it, is characteristic of human action. Tradition is a mode of integrating this reflexive monitoring of action and handling of time and space within the continuity of the past, present and future of the community. In pre-modern societies, reflexivity is largely limited to the reinterpretation and clarification of tradition. With modernity, reflexivity is introduced into the basis of system reproduction, such that thought and action are constantly refracted back on one another. Actions are legitimated not by their relation to tradition, but by their principled defence in the light of incoming knowledge. This changes the nature of the methods of validation and the source of authority, because this incoming knowledge has not been justified by tradition . . . (Giddens, 1996).[51]

As backward, hegemonic thought underpins current epochal contour terminology (as demonstrated in the above passage), my *Māori* modernity theorising penetrates through my use of them in the study. At the heart of such hegemony is a narrow viewpoint of *Māori/*indigenous reflexivity. This is made explicit in Giddens' (1996) above commentary on reflexivity, which confines epochal contour theorising of the non-western world to pre-modern reflexivity (O'Brien, 1995).

For greater realisation of the synergistic potential of *Māori* reflexivity, the pre-determined viewpoint of pre-modern reflexivity needs to be re-thought.[52] Hitherto, the four main epochal contour terms of reflexivity in the study are summarised in *Table 2.3*.

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[51] For further details see: Giddens at www.lse.ac.uk/giddens/FAQ.htm.
[52] Havemann (1997; 2000b; 2001) provides a useful reflexivity conceptual framework for distinguishing late modern reflexivity. As he draws from modernity theorists of reflexive modernisation, reflexivity intensifies or increases over time as follows:
    i.   slow or minimal reflexivity is termed 'simple reflexivity',
    ii. greatly increased reflexivity is named 'social reflexivity', and
    iii. extremely high reflexivity is termed 'enhanced social reflexivity'.

**Table 2.3   Main epochal contour terms of reflexivity in the study -
definitions**

Main terms of reflexivity	*Definition*	*Derivative*
diverse/multi-reflexivity	specific case examples of the reflexive practice of cross-tribal local river *kaitiakitanga*	simple reflexivity, social reflexivity, enhanced social reflexivity
multi-reflexivity	specific case examples of the reflexive practice of inter-governmental institutional environmental governance	simple reflexivity, social reflexivity, enhanced social reflexivity
collective cross-tribal reflexivity	representative or collective case examples of the reflexive practice of cross-tribal local river *kaitiakitanga*	simple reflexivity, social reflexivity, enhanced social reflexivity
collective institutional reflexivity	representative or collective case examples of the reflexive practice of inter-governmental institutional environmental governance	simple reflexivity, social reflexivity, enhanced social reflexivity

My theorising of *Māori* reflexivity derives from current cross-cultural
derivatives of late-modern reflexivity. I only intend to briefly introduce them
here. Later chapters provide the detail of their theoretical development in the
study, as illustrated in *Chapters 3 - 7*.

2.5.3   Epochal contour concepts - introduction

I draw on a number of epochal contour concepts to theorise the multi-
dimensional context in reflexive processes of value change. First, I introduce
my theoretical frameworks of the epochal contours in the three epochs of
modernity, as summarised in *Tables 2.4a,b,c.*

Table 2.4a   Non-modern epoch: characteristic framework

Epochal change concepts	*Definition*
Primary concept	
holistic relations	multifaceted, ecological and holistic human-environment relationship
Secondary concepts	
nature as one/ organic	interconnection between human-environment relationship
place-based	human closeness and affinity with the environment
Subsidiary concepts	
feudalism	non-modern social structure of human-environment relationship
metaphysical	human spiritual affinity with the environment

Table 2.4b   Modern epoch: characteristic framework

Epochal change concepts	*Definition*
Primary concept	
relations of production	growth driven human-environment relationship
Secondary concepts	
nature as enemy	dislocated and hostile human-environment relationship
liberalism	self-centred and individualistic modern idea
capitalism	growth-based modern idea
industrialism	apparatus of capitalism
Subsidiary concepts	
fordism	basic modern form of capitalism and industrialism (combined)
state	modern authoritative control system
sovereignty	state ideology of authoritative power

Table 2.4c   Late-modern epoch: characteristic framework

Epochal change concepts	*Definition*
Primary concept	
relations of definition	ideological defining human-environment relationship
Secondary concepts	
denatured nature or end of nature	resource depleted and exploited human-environment relationship
cosmopolitanism	cross-cultural human relationship
hyper or turbo-capitalism	growth-based late-modern idea
place versus space-based	dichotomous human-environmental relationship between distance and locale
Subsidiary concepts	
glocal	intermeshed local and global human-environment relationship
post-fordism	pseudo late-modern fordism

As depicted in the above theoretical framework of the epochal contours *(Tables 2.4a,b,c),* the multi-dimensional context of each epoch is theorised through an epochal order that characterises them. The epochs are characterised by three categories of epochal contour concepts, which define the epochal order of multi-dimensionality. My use of the 'secondary' and 'subsidiary' categories refers to the overall multi-dimensional context, whereas the 'primary' category is the most definitive epochal contour concept.

Second, multi-dimensionality is theorised across the entirety of modernity. For my research purposes, these epochal contour concepts are re-categorised to theorise the epochal reflexivity of reflexive modernisation, termed, the 'relations of epochal change' and 'modernisation of epochal contours' models of reflexive theory in the study. My conceptual analysis of the modernisation of epochal contours and relations of epochal change models in the study is theoretically framed in *Table 2.5*.

Table 2.5   The modernisation of epochal contours and relations of epochal change models - theoretical framework

non-modern	modern	late-modern
relations of epochal change		
holistic relations	relations of production	relations of definition
modernisation of epochal contours		
modernisation of the political-economy		
feudalism	fordism	post-fordism
modernisation of political-ecology		
nature as one	nature as enemy	denatured nature
modernisation of ideology and value change		
place-based metaphysical	liberalism	place versus space cosmopolitan

Focally, epochal reflexivity is theorised at two main theoretical levels in the re-categorisation of the epochal change concepts. In the relations of epochal change model, transitory processes of reflexive modernisation pertain to the primary epochal contour concepts. In the modernisation of epochal contours model, transitory processes of reflexive modernisation pertain to the secondary and subsidiary epochal contour concepts; that being, the modernisation of the political-economy, political ecology, and ideology, and value change.

Overall, the above theoretical models of the epochal contours encapsulate the multi-dimensionality of epochal reflexivity in reflexive modernisation, as further detailed in section *2.6.*

To summarise, this section introduced the specifics of reflexive theory in my analysis of the epochal contours. It concludes my introduction to the theoretical applications of epochal contour analysis in the study. I now deliberate on how such reflexive theorising is applied to locate the search for synergy in transitory processes of reflexive change.

2.6   Epochal change analysis - locating synergy

In this section, I apply theoretical applications of epochal change analysis to locate synergistic processes of reflexive change. In the following sub-sections, paradigmatic shifts throughout epochal change are theorised in the evolution from non-modernity and the modern era to late-modernity.

2.6.1   Non-modernity - introduction

The origins of reflexive processes of synergy are located in the proceeding five sub-sections on my epochal change analysis of non-modernity. After setting the epochal change context of the non-modern epoch, I compare both the paradigmatic shifts and epistemological orientations between the *Māori* and western scientific paradigms.

2.6.2   The epochal change context of non-modernity - overview of holistic relations

> The world we have lost was organic. From the obscure origins of our species, human beings have lived in daily, immediate, or organic relation with the natural order for their sustenance. In 1500, the daily interaction with nature was still structured for most Europeans, as it was for other peoples, by close-knit, cooperative, organic communities (Merchant, 1980: 1).

> The *Māori* loved his land and identified with it. His close, spiritual relationship with the land stemmed from his traditional concept of the basic origin of mankind deriving from the loving union of the earth mother, *Papa-tu-a-nuku,* with the sky-father, *Rangi-nui-tu-nei.* The union was bountiful, and by a series of semi-evolutionary processes, the heavens were filled with their hosts of gods and attendant spirits. Eventually, the terrestrial world was populated by gods and myriads of vassal spirits and animate creatures (Sinclair, 1987: 64).

The paradigmatic shifts of *te ao Māori* and western scientific knowledge occurred within a non-modern epochal context defined by holistic relations. Both *Māori/*indigenous and western European societies lived according to certain facets of holism (Best, 1924a; Grey, 1855; Eckersley, 1992; Marsden, 1992; Orbell, 1995; Pere, 1997; and Walker, 1987; 1990). The Merchant (1980: 1) and Sinclair (1987: 64) passages above illustrate the shared attributes of holism in pre-industrial non-modern societies. Taken together, we can see inter-relationships, harmony and balance between living and non-living things. The non-modern human-environment relationship is essentially spiritual or metaphysical. This sort of non-materialistic, conservatory and ecological living is named 'nature as one' by some non-modern commentators (Bookchin, 1980; 2003; Capra, 1982; Dobson et al., 1995; Merchant, 1980; and Pepper, 1993; 1996). Merchant's (1980; 1987; 1996) concept of 'organic' encapsulates as

well the holistic nature of non-modern times, because it embraces the multi-dimensionality and inter-related processes of holism.

The most fundamental aspect of non-modern holism captured by Merchant (1980) and Sinclair (1987) is the sense of affinity and closeness between humans and their locale/environment. A significant number of writers (both *Māori/*indigenous and western European) explain this closely associated human-environment relationship as being 'place-based' (Altman et al., 1992; Cresswell, 2004; Keith et al., 1993; and Teddy, 2003). This sense of 'place' is a multi-cultural phenomena, although some argue that it is more akin with *Māori/*indigenous communities *(Kawharu,* 1998; 2002; Kawagley, 1995; Shiva et al., 1995; Teddy, 2003; and Walker, 1990). The important point about the concept of 'place' is that it originated from (or is characteristic of) the non-modern epoch (Altman, 1992; Archibugi et al., 1998; and Cresswell, 2004).

In particular, non-modern holism operated in the feudal social system of non-modernity (Bieder, 1995; and Giddens et al., 2001). Drawing on Giddens et al (2001), the feudal social system can be characteristically framed into four main types of non-modern community, as illustrated in *Table 2.6.*[Note]

Table 2.6   The feudal social system - characteristic framework

Type of non-modern community	*General starting point of existence*	*Characteristics of non-modern community*
Hunting and gathering societies	*50, 000 BC*	- small numbers of people - livelihood from hunting, fishing and the gathering of edible plants
Agrarian societies	*12, 000 BC*	- small rural communities - livelihood from agriculture
Pastoral societies	*12, 000 BC*	- larger groups of people (from 100-1000) - livelihood from domesticated animals
Non-industrial civilisations	*6000 BC*	- very large groups of people - livelihood from agriculture and small-scale trade and manufacture

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Note

From Giddens, A. & Birdsall, K (2001). Sociology. Cambridge: Polity. Copyright 2001 by Giddens, A. & Birdsall, K. Adapted with permission.

Of course, the traditional *Māori* social groups of *waka,*[53] *iwi,*[54] *hapu*[55] and *whānau*[56] (Best, 1924a; 1924b; 1959; 1986; Brooking, 1996; Firth, 1959; Grace, 1959; Grey, 1855; and Metge, 1976) are not included in Giddens (2001) conceptualisation of feudalism. Hence, the use of the feudalism concept is expanded in this study, by inclusion of the non-modern social system of my people. Cross-culturally, therefore, the common attributes of non-modern communities are their relatively small size and community orientation.

2.6.3 Comparison of non-modern paradigmatic shifts

Non-modern paradigmatic shifts were epistemologically oriented toward the spiritual or metaphysical. However, *te ao Māori* evolved more in terms of a traditional cultural spirituality. In comparison, western scientific knowledge (WSK) paradigm shifts of the non-modern era were primarily metaphysical based *(Table 2.7)*. My comparison of randomly selected key events in non-modern paradigmatic shifts is briefly outlined in *Table 2.7*.

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[53] The largest *Māori* social grouping is termed *waka,* canoe, after the canoe migration from *Hawaiki.* Further discussion of the *Māori* river community case study *waka* is provided in *Chapter 7.*

[54] The tribal groupings of *Māori* are termed *iwi.* For further details of the *Māori* river community case study *iwi* see *Chapter 7.*

[55] The sub-tribal groupings of *Māori* are termed *hāpu.* The *Māori* river community case study *hāpu* are briefly discussed in *Chapter 7.*

[56] The tribal groupings of *Māori* are termed *iwi.* For further details of the *Māori* river community case study *iwi* see *Chapter 7.*

[56] The family groupings of *Māori* are termed *whānau.* The *Māori* river community case study *whānau* are briefly discussed in *Chapter 7.*

Table 2.7 Randomly selected key events in non-modern paradigmatic shifts - comparative framework

Pre-1500		
te ao Māori	*WSK*	*General*
start of human existence *Māori* creation Post-creation period/ *Hawaiki* *850-900: Kupe's* voyages *900: Māori* migration to *Aotearoa* *900-1500:* Migration/ settlement period	*>>>* *287-212:* Archimedes *384-322:* Aristotle *427-347:* Plato *582-500:* Pythagoras *western time begins>>>* *139-161:* Ptolemy *1226-74:* Aquinas	*1490:* Conquests of Columbus
15-17C		
Post-migration settlement period	*1473-1543:* Copernicous *1564-1642:* Galileo *1571-1630:* Kepler *1596-1650:* Descartes *1642-1727:* Newton	Western European imperialism *1648:* Treaty of Westphalia

Centrally, epochal change is compared from evolving historical influences on both epistemologies. On one side, *te ao Māori* stemmed from the traditional and spiritual foundation of *Māori* creation - the traditional *Māori* viewpoint of the beginning of humanity. As world colonisation, such as the conquests of Columbus (1490s) and western European imperialism (from the 1500s onwards, with specific reference to 1684)[57] were occurring far away from *Aotearoa,* I argue that the founding traditional cultural fabric of *te ao Māori* remained intact (Henare, 1988; and Klein, 1999).

On the other side, the western scientific paradigm originated from medieval Greco-Roman scientists, including Aristotle (384-322), Plato (427-347) and Galileo (1564-1642). In comparison, these scientific practitioners were primarily concerned with the metaphysical side of reality, driven by a Christian European dogma that underpinned the western European colonisation of the world (Allen et al., 1992; Gibbins et al., 1996; Held, 1995; and Rist, 1997).

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[57] In my comparative analysis of western European colonisation here, I note the evolutionary time point of western political-legal supremacy at the signing of the Westphalia Treaty (1648). Such evolving hegemony in the political-legal order of modernity is further examined in upcoming discussion of the chapter.

Having introduced my comparative historical overview of non-modern paradigmatic shifts, I now compare the epistemological orientation of each knowledge paradigm.

2.6.4   Non-modern epistemological orientations of *te ao Māori*

> The *Māori* people are honourably known far outside the confines of their New Zealand home. Acknowledged to be one of the finest of the native races within the British Empire they have been celebrated for their splendid physical appearance, their proud bearing, their aristocratic spirit, their fluent oratory, and above all their prowess in war. The untiring defence of their ingeniously constructed earthwork strongholds against superior numbers of British troops in the middle decades of the last century wrung a tribute of admiration even from their enemy. Tales of battle, cannibalism, murder, heroic defence, and all the other ingredients incident to relentless tribal feuds dominate the scene, and tend to overshadow their more substantial achievements in the field of industry (this is circled) and art. Yet the *Māori* in peace is of no less interest than the *Māori* in war (Firth, 1959: 16).

The *Māori* of *Aotearoa* are one of the most researched indigenous peoples in the world. Many *Māori* and non-*Māori* writers have dedicated their life's work to studying *Māori* society (Best, 1924a; 1924b; 1959; 1986; Bishop, 1996; 1997a; 1998a; 2005; Durie, 1994; 1998; Firth, 1959; Harrison, 2001; Havemann, 1995a; 1995b; 1999; Jackson, 1987; 1992; King, 1992; Metge, 1995; Orange, 1987; Ritchie, 1988; 1992; Smith, 1999; 2005; Walker, 1987; 1990; and Yoon, 1986) or what is often referred to as the 'traditions' of *Māori* people ('traditional *Māori* society').

Despite the battle worn (and other related) experiences of past ways of *Māori* living, the conservatory and holistic consensus of opinion about *te ao Māori* is interwoven through these works and many others. Of course, the multiple works of these researchers are far beyond what I can cover here. However, they are used as exemplars of 'traditional' *Māori* writing, to inform my own theorising of *te ao Māori* and *ngā tikanga tūpato*.

Put together as an overarching framework of ideas about our 'traditions', the common threads of sub-ideas derived from this research can be seen to

represent the constellation of ideas I refer to as *te ao Māori.* Out of this galaxy of ideas is the interwoven nexus of conservatory and ecological ideas that I term *ngā tikanga tūpato.*

The 'traditional' *te ao Māori* framework of ideas is overwhelming spiritual and is based on the myths and legends of our ancestor's travels to *Aotearoa* (Best, 1924a, 1924b; 1959; 1986; Buck, 1940; Firth, 1959; and Grace, 1959). The common starting point of *te ao Māori* research is *Māori* creation *(Rangihau,* 1977; Royal, 1998a; and Walker, 1990). The *Māori* creation stories provide the pivotal point for the spiritual expression of *te ao Māori* (Sutton, 1994).

In *Table 2.7,* these traditionally spiritual ideas are randomly traced from *Māori* creation to the end of the 17C. It includes the post-creation stories of the *Māori* gods and their children, the migration/post-migration stories - about *Hawaiki* where *Māori* first lived, to their coming in *Aotearoa,* and the *Māori* settlement/post-settlement stories, referred to as the *'waka'* traditions (Salmond, 1978).

Again, it is not possible to cover this huge field of *te ao Māori* research, but rather to deliberate on the general thrust about our traditional foundation of spirituality. The *Māori* creation stories are central here. This is where the spirituality of our worldview is traced. In the following, I draw on my own spiritual interpretation of *Māori* creation to elaborate on the applications of *ngā tikanga tūpato* in the study.

2.6.5 *Māori creation and ngā tikanga tūpato - spiritual applications*

> The *Māori* world was created through the union of *Ranginui* (the sky father) and *Papa-tuanuku* (the earth mother). In the beginning, these 'primal' parents lay clasped together, and bore many sons. The first son, *Tane,* grew tired of living in the dark, cramped space between his parents. With his feet placed against *Rangi* and his hands braced against *Papa,* he forced them apart, creating the space between the earth and sky. He and his brothers, including *Tangaroa, Tawhirimatea, Tumataenga, Haumiatikitiki,* and *Rongomawahanie* then entered into *Te Ao Marama* (the world of light) *(Ruru,* 1991: 13).

> The connection *Māori* feel with nature stems from the creation mythology and the traditional concept of the origin of mankind. All things in the natural world are seen as the progeny of *Papatuanuku* (the earth mother) and *Ranginui* (the sky father), the primal parents of the universe and the natural experienced world, including humans (Bloomfield, 1997: 11).

Māori and non-*Māori* writings on the *Māori* creation stories are either quite complex and in depth, or by contrast they are very simplistic and uncomplicated. I draw on the simple variety (as in the above works) for my purpose of a general overview of *Māori* creation.

As described in the above commentaries of *Ruru* (1991) and Bloomfield (1997), the world was created through both the union of *Papa* (sky father) and *Rangi* (earth mother), (as descended from *Io,* the supreme *Māori* god) and the entry of their children into earth. A simplistic version of this *Māori*-creation genealogy is depicted in *Figure 2.5*.
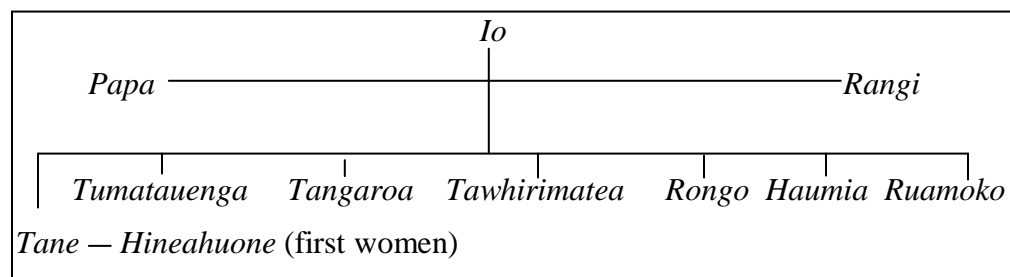
Figure 2.5   Simple version of *Māori*-creation genealogy

How the creation process occurred and its' latter happenings *(Figure 2.5),* is in essence what the *Māori* creation stories are all about; that is, on a very superficial level. Instead, it is the deeper spiritual, traditional and holistic meanings associated to these occurrences of *Māori* creation that I apply in reference to *ngā tikanga tūpato* in this study.

In my view, *ngā tikanga tūpato* derive a spiritual depth from *Māori* creation in both philosophical and social practice applications of the *Māori* people-environment relationship. Essentially, the spiritual connection between these

applications varies. My conceptualisation of the spiritual link between *Māori* creation and *ngā tikanga tūpato* is schematically framed in *Figure 2.6.*

```
┌─────────────────────────────────────────────────────┐
│  Intensity level          Māori creation stories     │
│  high    │                          ↑                │
│      main    =======  wairua, whakapapa, whānau       │
│          │                          │                 │
│      subsidiary ======  aroha, kaitiaki, kotahitanga   │
│  low                    manaaki, mauri, wāhi tapu      │
│                              ngā tikanga tūpato         │
└─────────────────────────────────────────────────────┘
```
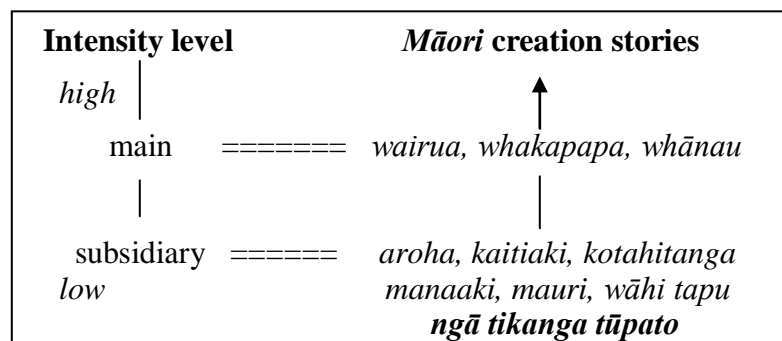
**Figure 2.6   *Māori* creation and *ngā tikanga tūpato* -
conceptual framework**

As exemplified in the above schema of *Māori* creation and *ngā tikanga tūpato,* two key levels of intensity in the spiritual connection are depicted. First, it is proposed that *wairua, whakapapa* and *whānau* have a high intensity link to *Māori* creation, referring to the 'main' level of the spiritual connection. Consequently, they are seen to have governing cultural meanings in the *Māori* people-environment relationship. Second, I also propose that *aroha, kaitiaki, kotahitanga, manaaki, mauri, and wāhi tapu* have a medium intensity link to *Māori* creation, referring to the 'subsidiary' level of the spiritual connection.

Hence, they are viewed to provide a supportive role to the main governance framework of the *Māori* people-environment relationship. This conceptualisation of *ngā tikanga tūpato* is proposed to have a generic applicability across *Māori* people's relationship with all natural and physical resources, including *wai,* water resources such as rivers. My key interest is in the *Māori* people-environment relationship to *wai,* water, as seen through the three *Māori* river case studies of the research *(Chapter 7)*. I expand on a *Māori* viewpoint of *wai* in *Appendix 2.1.*

2.6.6   *Western scientific knowledge paradigm - metaphysical applications*

> Europe was also the nursery of modern science, a revolution regarded by a former professor of modern history at Cambridge as of such importance that 'it outshines everything since the rise of Christianity and

> reduces the Renaissance and Reformation to the rank of mere episodes'. The idea of a European Scientific Revolution seems now to be generally accepted, but opinions differ on what that revolution amounted to. Was it a new view of nature overall, a new set of superior theories, or the perfection of scientific method? There is also disagreement on when the revolution began: a few try to trace it back to the Middle Ages; more look to the early modern period. But all seem to accept that something special occurred in the seventeenth century through the work of such famous scientists as Galileo and Issac Newton. For one historian their achievement clearly meets his idea of a Scientific Revolution; 'the overthrow of an entrenched orthodoxy; challenge, resistance, struggle and conquest . . . grandeur of scale and urgency of tempo' . . . (Goodman, 1991: 8).

As exemplified in the above quotation (Goodman, 1991), the non-modern era was also characterised by an evolving superiority toward meta-physical science in the name of 'progress'. In comparison, Greco-Roman scientists were driven by a need to advance humanity through scientific discovery (Goodman, 1991; and Merchant, 1980). Inevitably, the growing dominance of meta-physical science brought a hegemonic viewpoint of progress (Pepper, 1993; 1996). Most fundamentally, it drove in the evolving hegemony of growth (Bookchin, 2003; Capra, 1982; Geddes, 1995; and Pepper, 1996), as elaborated in upcoming discussion on the modern epoch *(2.6.7 - 2.6.10)*.

In particular, the Greco-Roman scientists operated in a hierarchically structured group or community of experts, which became known as the 'scientific community' (Kuhn, 1977). Crucially, dialogue on meta-physical science was contained within the non-modern scientific hierarchy (Leiss, 1972; and Linzey, 1995). In non-modernity, Galileo was the 'top' scientific expert (Capra, 1982; and Dobson et al., 1995). Scientific discovery was regenerated from a meta-physical core of expertise based on his theory about the earth circling the sun, termed 'the earth-sun theory' (Gilbert, 1997; and Krech et al., 2004).

The regeneration process of metaphysical science revolved around bettering Galileo's theory. Notable challenges of the Greco-Roman scientific hierarchy came from both the sun-centered system of planets (Corpernicus: 1473-1543) and the earth-centered geocentric spheres (Ptolemy: 139-161) theories. Another

top contender near the end of non-modernity was Newtons' (1642-1727) world as machine theory (Goodman, 1991; and Pepper, 1993). Such theories expand on the originating meta-physical theory of Galileo's; this being at the crux of the regeneration of scientific expertise (Capra, 1982; and Krech et al., 2004). Overall, it is the specialised dialogue amongst non-modern experts that set a growing precedence of scientific supremacy. More details follow in my discussion on the next epoch. Additionally, this is further covered in *Chapters 4 - 5.*

To summarise, the above comparative analysis located the origins of reflexive processes of synergy in the non-modern epoch. In the following, such evolving reflexivity is examined from my epochal change analysis of the modern epoch.

2.6.7   *The modern epoch - introduction*

Accelerated reflexivity is located in the following three sub-sections on my epochal change analysis of the modern epoch.   I first locate the modern era impetus on growth and the consequential paradigmatic shifts of the *Māori* and western scientific worldviews. I then compare the reflexive processes between them, focusing on the adaptive potential of *te ao Māori.*

2.6.8   *The epochal change context of the modern epoch - overview of the relations of production*

> Acknowledging the spiritual dimension of their universe and respecting the *mauri* or central life force of every living thing was fundamentally important to the *Māori* worldview. In other words, the reciprocity of obligations was balanced against the right to use and exploit. This can be contrasted with the notion of intellectual property rights, which focuses on the economic right to exploit for profit and financial gain. The needs of the individual, and corporate legal personalities such as multinationals, are preferred to the collective good. Under this capitalist model, resources are viewed entirely as a means of exploitation for economic gain. There is little or no reciprocity or respect for the integrity of the resources as living and breathing entities with their own *mauri* or life force (Solomon, 2000: 3).

> The economic changes taking place in England and on the Continent in the first half of the nineteenth century were more uprooting and far-reaching than any

> experienced by humanity since the advent of full-scale
> agriculture and the formation of the first city-states at
> Sumer. After thousands of years of agrarian existence, the
> human family was embarking on a new course. Millions
> of people abandoned their plows in the very fields their
> ancestors had tended from time immemorial. They
> gathered their meager belongings and marched right out
> of the sunlight into darkened factories, where they
> fastened themselves to a new tool, the industrial machine
> (Rifkin, 2000: 65).

As illustrated in the above commentaries (Rifkin, 2000; and Solomon, 2002), the modern epoch is defined by, the relations of production (Beck, 1999; and Giddens, 2003). Primarily, economic determinism is the essential tenet of the relations of production. It consists of the two major economic factors of 'industrialism' - referring to the style of economic production - and 'capitalism' - referring to the economic mode of production (Held et al., 2002; Henderson, 1991; Sen, 1998; and Todaro, 1996). Most peoples of the world became encompassed by an economic-determinist or commodified kind of living. Solomon (2000) and Rifkin (2000) encapsulate a cross-cultural viewpoint of economic determinism. Taken together, we can see that an overwhelming economic domination permeates and infiltrates throughout the entire fabric of modern society.

The 'fordism'[58] concept encapsulates the socio-economic operation of economic determinism (Cox, 1995; Gilbert et al., 1992; and Havemann, 1998). Critically, fordism thought examines how the social and economic are integrated through a combined capitalist and industrial model of factory produced economic development. For example, the Ford car factory system is a fordism derivative; that being, one of the first industries to mass-produce (Tonnies, 1957; and Weber, 1930; 1976). The hegemonic perpetuation of growth in the modern factory economy is a key theme of fordism, including the detrimental impacts on *Māori/*indigenous peoples (Havemann, 2002a; Mead, 1994; and Shiva, 1993).

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[58] Fordism is a phrase derived from Gramsci's work on hegemony, whereby it described docile workers whose consent to be misruled was purchased by wages and benefits at the expense of non-economic conditions such as their freedom rights. For further details see Gramsci 1977; 1995.

Indeed, much fordism writing centres on the modern driving force of world economic development; that being, the world monetary and financial system of the 'Bretton Woods' institutions (1940s).[59] Most significantly, they were catalysts for the rise of economic power in world resource use and development. Consequently, emerging interest has evolved toward the social and economic dimensions of the Bretton Woods institutions (Miskesell, 1994; and Pauly, 1996), as I further examine with specific regard to *Māori/*indigenous development in *Chapters 4* and *5*.

Biological determinism works alongside economic determinism in the relations of production. A hegemonic western scientific knowledge viewpoint of nature underpinned the imperial project of growth (Hannigan, 1995; and Grove-White, 1996). The modern epochal colonisation of the world was driven by these two western scientific values (Harding, 1996). It was fundamental in the othering or demonisation of *Māori/*indigenous peoples (Cant et al., 1993; Frankel et al., 1998; and Said, 1993). Key western scientific knowledge devices of economic and biological determinism include the 'chain of being' and 'family tree of man' theories (Linnaeus, 1964). Such western scientific thought perpetuated racial discrimination and class division in the relations of production (Gilbert, 1997; Harding, 1998; and McKinley, 2003).

Liberalism - a self-centred people-environment relationship viewpoint is a foundational western scientific oriented idea of the relations of production. The major western scientific value of liberalism is individualism (Hobbes, 1914; Locke, 1960; and Mills, 1962). Individual gain became integral to the pursuit of growth. The rise of individualism can be traced to several modern theorists of liberalism, such as Locke's (1632-1704) 'Two Treaties', Hobbes leviathan's theory (1651) and Mills' conceptualisation of 'liberty' (1962).

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[59] The Bretton Woods institutions (such as the International Monetary Fund/1944, World Bank/1944 and General Agreement on Tariffs and Trade/1944) arose from the 1940s in alignment with the United Nations. They were created as an international post war reconstruction along with the United Nations and were within its orbit as specialist agencies. In 1996, GATT ended and was replaced by the WTO which is not a UN agency but is still a multi-lateral institution. The 'post' Bretton Woods institutions include the World Trade Organisation, International Government Organisations such as APEC, G7, G22 and OECD, Non-government organisations and United Nations organisations such as UNEP, UNDP and UNCTAD. My key readings on the Bretton Woods institutions include: Mikesell (1994); Pauly (1996); and Polak (1999). For further details see *Chapter 5*.

Most significant, is the 'state of nature' liberal idea of Hobbes (1651), which denounces the collective social grouping of *Māori/*indigenous peoples on their homelands (Frankel et al., 1998; Jackson, 1997; and Mead, 1996). Many writers of indigenous studies attribute world colonisation to state of nature thought, exemplified through the 'terra nullius'[60] concept that legitimised the western European take-over of land (Anaya, 1996; Battiste, 2000; Battiste et al., 2000; Mead, 1994; and Smith, 1999). Thus, the individualist thinking of liberalism sought to break down the collective fabric of *Māori/*indigenous society in the relations of production, as I later detail in *Chapters 4 - 7.*

The modern authoritative control system of the 'state' or more specifically the 'nation state', was built on liberalism. 'Nation' is derived from the Latin word 'nasci', meaning growing and being born and 'state' is derived from the Latin word 'stare', meaning to stand and one power (Tivey, 1981: 3 - 4). Taken together we can see that it refers to the growth of a distinctly powerful political unit of the 'superior' based on:

> . . . political apparatuses, distinct from both ruler and ruled, with supreme jurisdiction over a demarcated territorial area, backed by claim to a monopoly of coercive power and enjoying legitimacy as a result of a minimum level of support or loyalty from their citizens. This conception of the modern state underscores a number of its most prominent innovations, including: 1. territoriality . . . 2. control of the means of violence . . . 3. impersonal structure of power . . . 4. legitimacy . . . (Held et al., 1995: 48).

'Nation state' became legitimised through the Treaty of Westphalia (1648),[61] resulting in a worldwide birth of the 'Westphalia state system' (Hall et al., 1992a; 1992b; and Held et al., 1995). Absolute and unconditional power,

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[60] In English common law, the 'terra nullius' concept defines such territories of *Māori/* indigenous peoples as belonging to no one (Mead, 1996). It is stemmed from Hobbes state of nature idea that saw *Māori/*indigenous peoples in a continual state of darkness and evil. Thus, they required 'rescuing'. From a hegemonic colonial viewpoint, this justified them being taken away from where they lived (Battiste, 2000; and Battiste et al., 2000).

[61] The Westphalia Treaty was written as a peace treaty to conclude approximately thirty years of war in Europe. It signalled the demarcation point from non-modern feudalism to the modern Westphalia state system. The central tenets of the Westphalia Treaty provided for the overall framework of the Westphalia state system. For further details see *Appendix 2.2.*

termed 'sovereignty'[62] is the critical benchmark of the Westphalia state system. Many indigenous studies writers highlight how such sovereign powers lever western European dominance over the oppressed, namely *Māori/*indigenous peoples (Anaya, 1996; Battiste, 2000; and Jackson, 1995). For further details of the Westphalia state system definition of nation state see *Appendix 2.2.*

More specifically, *Aotearoa* sovereignty is instigated through both the Westminster governance system[63] and the Keynesian welfare state system[64] (Cheyne et al, 1997; Davis et al., 1997; Kesley, 1993; 1995; and Havemann, 1998). For my research purposes, I employ the term 'Westminster-Keynesian system', as later examined in *Chapters 4 - 5.*

Some theorists of capitalist society stress the detrimental socio-cultural impact from the transition from holistic relations to the relations of production (Douglas, 1966; 1970; and Tonnies, 1957). The central theme is the contrasting economic systems between epochs. Douglas (1966; 1970) distinguishes the socio-economic basis of non-modern societies through her conceptualisation of the cultural phenomenon of 'gift exchange', compared to materialistic capitalism. Tonnies (1957) compares epochal distinctions between economic systems in his concept of *gemeinschaft* (non-modern economy*)* and *gesellschaft* (modern economy) (Bocock et al., 1992; Giddens et al., 2001; Havemann, 1998; and Held, 1995). The *gemeinschaft* concept highlights the kinship and barter exchange characteristics of non-modern economy, whereas the *'gesellschaft'* concept emphasises the loss of them.

Also, the 'nature as enemy' concept refers to the modernisation of the political-ecology in the relations of production (Eckersley, 1992; Merchant, 1980; Rifkin, 1983; and Pepper, 1996). Integrally, nature is perceived as a 'resource', for exploitative use and manipulation. The underlying goal of modernisation

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[62] Much debate surrounds the meaning of sovereignty (Held et al., 1995; and Tivey, 1981). However, most definitions relate to the three principles of superior authority, delegated divine and ultimate power.

[63] Westminster governance refers to the political-legal system born from the English colonisation of *Aotearoa* (Havemann, 1995b; Jackson, 1995; and Kesley, 1993; 1995). For further details see *Chapters 4 - 5.*

[64] The Keynesian welfare state is a hegemonic derivative of the Westminster governance system (Havemann, 1998; and Kesley, 1993; 1995). For further details see *Chapter 4 - 5.*

being endless consumption of world 'resources' for the purpose of growth. Thereby, 'nature' becomes an, 'enemy' to the project of modernisation.

Hitherto, the nature as enemy concept accounts for the breakdown in the relations of production near the end of the modern epoch. Over-consumption resulted in a world environment crisis from the 1970s onwards (Leiss, 1972; Pepper, 1993; 1996; White, 1967; and Yearly, 1991; 1994). This brought much debate about nature as enemy thought. It includes considerable re-thinking about the previous dominance of western scientific knowledge, especially regarding the promotion of growth (Moffatt, 1996; Serageldin, 1995; and Serageldin et al., 1994). Also, alternative or 'green' viewpoints came to the fore (Black, 1994; 1996; Donahue et al., 1998; Shiva, 1993; 1995; and Trosper, 1998).

This shift in environmental thought is further examined in my comparative analysis of the sustainable development paradigm (Guyette, 1996; and Pepper, 1996), with specific regard to the convergences and divergences between post-materialist green writings[65] and *Māori/*indigenous ecological thinking. I provide a detailed account of this topic in *Chapters 4* and *5.*

2.6.9   Comparison of modern paradigmatic shifts

Modern paradigmatic shifts revolved around the quest for growth. The western scientific knowledge paradigm rose to hegemonic power, compared to the marginalisation of *te ao Māori.* My comparative historical overview of randomly selected key events in the modern epoch is briefly outlined in *Table 2.8.*

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[65]   Dobson's (1990) post-materialist green thinking spectrum (from light green to dark green) succinctly illustrates the main categories of this ecological thinking framework including deep ecology (Naess, 1972; Leopold, 1968; and Bookchin, 1980; 2003) and eco-feminism (Merchant, 1980; and Shiva, 1993). For further discussion of the convergences and divergences with *Māori/*indigenous ecological thinking see *Chapters 4 - 5.*

Table 2.8   Randomly selected key events in modern paradigmatic shifts - comparative framework

17-18C/PERIOD OF THE RISING HEGEMONY OF GROWTH		
Te ao Māori	*WSK*	*General*
1700-1800: Contact, coercion and *cooperation*	*1760-1825:* Saint-Simon *1798-1857:* Comte	*1632-1704:* Locke *17-18C:* Ethnocide, ecocide, genocide
18-19C/HEGEMONIC GROWTH PERIOD		
Infiltrating Pākehā culture *1800-1840: Māori* Wars *1840:* Treaty of *Waitangi* *1860-65:* Land wars *1865:* Native Land Act *1860-1920*: Land Confiscations	*1831-71:* Darwin *1811-55:* Dieffenbach *1860-80:* Hector *1887:* Morley	*18-19C:* Ethnocide, ecocide, genocide *1850*: Hackel *1887-1948:* Leopold *1926:* Tansley
19-20C/PERIOD OF CHALLENGE TO HEGEMONIC GROWTH		
1908: Tohunga Suppression Act *Māori renaissance* *1974:* Land March *1978:* Bastion Point *1982: Kōhanga Reo* *1986: Kura Kaupapa* *1992:* Settlement Act *1993: Mataatua*	*1905:* Einstein *1902-1994:* Popper *1928:* Penicillin *1938:* Nuclear fission *1943:* Artificial kidney *1945:* AB-Horishima *1945:* AB-Nagasaki *1953:* DNA *1968:* Plate tectonics *1988:* GE patent	*19-20C* Ethnocide, ecocide, genocide *1914-18:* World War 1 *1942-45*: World War 2 *1944:* IMF/WB *1948:* GATT *1983:* Bruntland report *1991:* RMA *1992:* Rio declaration

Explanatory caption			
Acronyms		*Māori terms of reference*	
AB	- atomic bomb	Bastion Point	- *Māori* protest occupation
DNA	- dexoyribo-nucleic acid	*Kōhanga Reo*	- Pre-school *Māori* language revival program
GATT	- general agreement on trade & tariffs	*Kura Kaupapa*	- School *Māori* language revival program
GE	- Genetic Engineering	Land March	- *Māori* protest land march
IMF	- International Monetary Fund	*Mataatua*	- *Māori* protest declaration
WB	- World Bank	Settlement Act	- *Waikato* land confiscation settlement Act

Centrally, the power discrepancy between the knowledge paradigms grew from the western European colonisation of the world. As illustrated in *Table 2.8,* the hegemonic authority of western scientific knowledge in the pursuit of growth was especially marked prior to the 1970s. Comparatively speaking, *te ao Māori* became infiltrated by western European domination. However, these positions changed after the 1970s. Re-thinking of the western scientific growth impetus accelerated from the 1970s. In comparison, *te ao Māori* experienced a renaissance of growing intensity and strength. The following discussion expands on my brief historical comparison of modern paradigmatic shifts provided here.

2.6.10   Modern growth - western scientific knowledge and the dynamic reflexivity of te ao Māori

> For most of the past 500 years the indigenous peoples' project has had one major priority: survival. This has entailed survival from the effects of sustained war with the colonizers, from the devastation of diseases, from the dislocation from lands and territories, from the oppressions of living under unjust regimes; survival at the sheer basic physical level and as peoples with our own distinctive languages and cultures . . . Some of the signposts which have marked this journey include such activities as the land march of 1974, *Waitangi* Day protests from 1971, the occupation of Bastion Point (1978) and of Raglan Golf Course (1978), the disruption of the Springbok Rugby Tour (1981), *Te Kohanga Reo* (1982), the *Māori* Education Development Conference (1984), the *Māori* Economic Development Conference (1985) and *Kura Kaupapa* (1986)(Smith, 1999: 107 - 9).

Although the sheer grit of *Māori* people's survival can be identified at peaks of time (as exemplified in the above passage), their reflexive adaptation to change was a dynamic feature throughout the entire evolution of the modern epoch. This reflexivity initially evolved from the great navigational feats of our *tipuna's* journey to *Aotearoa* from ecological impossibilities in *Hawaiki,* bringing the reflexive negotiation of migration (Best, 1924a; 1924b; Firth, 1959; and Grey, 1855). Next, came the reflexive adaptation to the ecology of *Aotearoa,* including the ingeniously built *Māori pa,* community fortresses and dynamic migratory movements of *Māori kainga*, dwellings (Buck, 1950; and

Grace, 1959). Thus, *Māori* reflexivity was already firmly in place during the pre-contact period (Grace, 1959; Metge, 1976; Orbell, 1995; and Salmond, 1978).

When western scientific knowledge penetrated through English contact and settlement, our *tipuna* drew on their inborn reflexivity in adaptive strategies of both the liberation from and co-optation of western European culture (Condliffe, 1971; Grace, 1959; Harre, 1966; and *Ngata,* 1940). On one side, western scientific knowledge was initially embraced through *Māori* people's active participation with European settlers (including scientists)[66] and use of western scientific technological inventions such as the compass and musket. At the same time, *tikanga* prevailed[67] (Best, 1986; Firth, 1959; and Grace, 1959).

As English domination flourished, *Māori* reflexivity intensified to cope with the persistent challenges to *te ao Māori* such as Christianisation, land dispossession and language loss (Durie, 1994; 1998; Jackson, 1995; 1998; and Smith, 1999). In *Aotearoa,* the colonisation project aimed to dismantle *te ao Māori* (Bishop, 2005; Cox, 1993; Fleras et al., 1999; Harris, 2004; and Havemann, 1995b). As Jackson (1995) reiterates:

> With the onset of colonisation . . . the political authority
> and then the cultural understandings of *Māori* were to be
> demeaned, dismissed and redefined (Jackson, 1995: 243).

Western scientific knowledge was especially hegemonic through the missionary invasion of Judaeo-Christianisation (Durie, 1998; Havemann, 1999; Jackson, 1987; 1992; and McKinley, 2003). As McKinley (2003) stresses:

> According to Reverend James Buller (one of the earliest
> missionaries in New Zealand and spent 40 years here) there
> was a fundamental understanding to replace *Māori* beliefs
> with their own Judaeo-Christian values (Buller, 1878; p.
> 333). This 'reading' of ethnographic accounts from last
> century indicates a concerted attack on *Māori* values and

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[66] For example, in the *Oparau* case study, a European scientist named Hochstetter, worked collaboratively with local *Māori* in a scientific study of *Kāwhia* (Fleming, 1959). For further details see *Chapter 7.*

[67] For example, according to my *Ngāti Hikairo tipuna*, sacred spiritual gifts are retained by their passage throughout the generations of our *whānau*. For further details see *Chapter 3.*

beliefs from the time the missionaries came to New Zealand (McKinley, 2003: 94).

As the power and legitimacy of western scientific knowledge increased, the authority of *te ao Māori* decreased *(Table 2.8).* My conceptualisation of Judaeo-Christian thinking regarding western scientific knowledge and *te ao Māori* is illustrated in *Table 2.9.*

Table 2.9 Judaeo-Christian viewpoint of WSK superiority and *te ao Māori* inferiority - conceptual framework

WSK	*te ao Māori*
Superior attributes	*Inferior attributes*
- endorsed by God	- unrecognised by God
- legitimate	- inconsequential
- real	- non-existent or 'in a state of nature'
- rational	- irrational
- progressive	- backward
- empirical or logical	- spiritual or mythical
- objective	- subjective
- mechanistic	- holistic
- explainable	- not able to explain
- facts	- values

In the above conceptualisation of Judaeo-Christian thought *(Table 2.9),* I argue that the power and authority differential between worldviews was stemmed on ten opposing attributes between the superiority of western scientific knowledge versus the inferiority of *te ao Māori.* In my viewpoint, such oppositional thought demonstrates the epistemological battle between worldviews in the hegemonic plight of *Aotearoa* Judaeo-Christianisation.

Despite the extreme hegemony from infiltrating western scientific knowledge, *te ao Māori* survived the epochal journey of modern times. In fact, *Māori* reflexivity blossomed into a renaissance of *te ao Māori* from the 1970s thereafter. Smith's (1999) commentary highlights some of the main reflexive social practices of *Māori*/indigenous peoples during the *Māori* renaissance period of the modern epoch. I further elaborate on *Māori* reflexivity in *Chapters 3 - 7.*

In sum, the above discussion located accelerated reflexivity of the modern epoch. The final part of the chapter examines the increased acceleration of reflexive processes in terms of my epochal change analysis of late-modernity.

2.6.11   Late-modernity - introduction

Hyper-accelerated reflexive processes of synergy are located in the upcoming two sub-sections of my epochal change analysis of the late-modern epoch *(2.6.12 - 2.6.13).* After introducing the epochal change context of late-modernity *(2.6.12),* I locate synergistic processes of reflexive modernisation in paradigmatic shifts of the late-modern era *(2.6.13).*

2.6.12   The epochal change context of late-modernity - overview of the relations of definition

> Reflexive modernisation implies coming to terms with the limits and contradictions of the modern order. The existing social order or structure becomes the object of its own forces. The concept of reflexive modernisation does not simply imply reflection, but a self-confrontation created by the dynamic of modernisation. This reflexivity is created by the circumstances of modern society in which the constantly renewing flow of information constituting society simultaneously revises that society's modernity. This transition is the process of reflexive modernisation (Giddens, 1996: 9).

As the above quotation exemplifies (Giddens, 1996), the late-modern context of reflexive modernisation is defined by the relations of definition. In reflexive modernisation thought, this relates to a self-confrontation with current effects and circumstances of the modern order created by modernisation. At the crux, is the constant flow of information, which renews and revises what constitutes society. This being where one now has a greater power to define the constitution of society in the transition between the relations of production and the relations of definition.

Most central, are the new impossibilities of environmental danger or 'risks'. According to risk society theorists (Beck, 1999; and Giddens, 1996), these represent the essential side effects of modern growth. Thus, the evolving prevalence of environmental risk is at the heart of the relations of definition.

In fact, relations of definition theorising postulates that the late-modern era is now consumed with risk, as Beck (1999) explains:

> In risk society we must conceive of the relations of definition analogous to Karl Marx's relations of production. Risk society's relations of definition include the specific rules, institutions and capacities that capture the identification and assessment of risk in a specific cultural context. They are the legal, epistemological and cultural power matrix in which risk politics is conducted (Beck, 1999: 49).

Indeed, the above commentary on the relations of definition brings out the change around in the nature of risk. Rather than certainty (of the relations of production) we are now confronted by uncertainty (of the relations of definition) - reflexive modernisation being the transitory change process between them. Therefore, the relations of definition, primarily concerns the negotiation of risk, as I examine in *Chapter 5*.

Instead of an abundant and resourceful environment, we now deal with a resource depleted and overused environment in the relations of definition - termed 'denatured nature' or the 'end of nature'. Giddens (1996) usefully frames the end of nature conceptualisation in the context of late-modern risk (Franklin, 1998), as follows:

> The origins of the risk society can be traced to two fundamental transformations which are affecting our lives today. Each is connected to the increasing influence of science and technology, although not wholly determined by them. The first transformation can be called the end of nature; and the second the end of tradition. The end of nature does not mean a world in which the natural environment disappears. It means that there are now few if any aspects of the physical world untouched by human intervention (Giddens, 1996: 25 - 26).

The essential argument in the above passage on denatured nature is that we have reached an endpoint in nature's capacity for use that now must be realised. No longer can the 'old' abuse and misappropriation of the environment be allowed, underpinned by hegemonic growth. This means the end of 'old' or 'past' growth-oriented impetus of the relations of production -

conceived in terms of the 'end of tradition'. Overall, both 'endpoints' of the end of nature concept, are perceived to be under radical transformation in the relations of definition.

The denatured nature concept usefully applies to environmental institutions undergoing transitory change from the relations of production to the relations of definition. Essentially, environmental bureaucracies become confronted by the denatured circumstances of late-modernity, no longer matching 'old' modern coping strategies built into their application of the relations of production. As Beck (1999) reiterates through his risk society concepts of 'the social explosiveness of hazard' and 'organised irresponsibility':

> The concept of 'organised irresponsibility' helps to explain how the institutions of modern society must unavoidably acknowledge the reality of catastrophe while simultaneously denying its existence, hiding its origins and precluding compensation or control. To put it another way, risk societies are characterised by the paradox of more and more environmental degradation - perceived as impossible - coupled with an expansion of environmental law and regulation. Yet at the same time, no individual or institution seems to be held specifically accountable for anything. How can this be? To me the key to explaining this state of affairs is the mismatch that exists in the risk society between the character of hazards or manufactured uncertainties produced by late industrialisation and the prevalent relations of definition which date in their construction and content from an other and qualitatively different epoch . . . I use the metaphor of the social explosiveness of hazard to explain the politicizing effects of risks (definition) conflicts. I explore the ways in which the virtuality, the 'becoming real' of large-scale hazards, risks and manufactured uncertainties set off a dynamic of cultural and political change that undermines state bureaucracies, challenges of dominance of science, and redraws the boundaries and battlelines of contemporary politics. So hazards, understood as socially constructed and produced 'quasi-subjects', are a powerful, uncontrollable 'actor' that delegitimises and destabilizes state institutions with responsibilities for pollution control, in particular, and public safety, in general (Beck, 1999: 150 - 151).

In the above risk society theorising of Beck (1999), he emphasises a most relevant dichotomy of denatured nature facing environmental institutions of late-modernity - that they are stupendously geared for the relations of

production and not the relations of definition. This brings a series of cause and effect processes and events that display the mismatch and he develops them as scenarios to exemplify a particular story about what is being played out. The 'social explosiveness of hazards' concept tells the story of socio-cultural dimensions in the environmental management of hazards, with the central theme of a socially constructed mismatch between people, nature and environmental institutions.

The 'organised irresponsibility' concept tells the story of structured unaccountability of environmental systems and processes, with the central theme of an infra-structural mismatch between environmental institutions and the human-nature relationship. Considering their usefulness in articulating transitory change afflicting world environmental institutions, these risk society concepts will be further discussed with regard to *Māori* reflexivity and *Aotearoa* environmental bureaucracies (*Chapter 4 - 7*).

Rather than modern fordism, the relations of definition now face pseudo or post-fordism - a hyper or turbo-capitalist system of economic growth and development. The three central tenets of post-fordism are:

i.   globalisation;
ii.   the bio-technology revolution - referring to the mixture of biological and technological advancement; and
iii. the informational technology revolution - referring to the commodification of information and knowledge through the computer age.

At the core of post-fordism is accelerated and intensified fordism - thus, 'post' or 'pseudo' refers to the transition between an 'old' and 'new' fordism. Important features of globalisation and the bio-technology and information technology revolutions include:

- a new world economic order, dominated by the Bretton Woods institutions;

- the commodification of natural and physical resources, for growth purposes;

- the commodification of knowledge and information, for growth purposes;

- an increasing polarisation between rich and poor;

- the rise of the information age workforce - based on the individualisation of labour, market instability and flexibility of work; and,

- the decreasing authority and power of state systems of the world (Havemann, 1997; 2000b; 2001; 2002a; and Hutton et al., 2000).

Consequently, 'old' exploitative legacies of modern fordism are brought forward, manifesting at an intensified pace in post-fordism. Built at the world economic level of the Bretton Woods institutions on the backbone of globalisation and the bio-technology and information technology revolutions, post-fordism reigns. Thus, this translates into transitory economic development processes from modern to late-modernity in post-fordism, as Gidden (1996) highlights in the following passage:

> The level of world trade today is much higher than it ever was before. But the biggest difference is the level of finance and capital flows. Geared as it is to electronic money - money that only exists as digits in computers - the current world economy has no parallel in earlier times (Giddens, 1996: 1).

Indeed, one becomes confronted with these radical transformations of post-fordism in the relations of definition. The new radicalisation of hyper-capitalism brings an intensification of hegemonic growth, alongside the urgency to conserve. Such epochal reflexivity now confronts humanity in an all-encompassing capacity.

For *Māori/*indigenous peoples, the battle for survival has turned. It is now within intensified circumstances of extreme hegemony, whereby indigenous

knowledge brings much synergistic potential in reflexive modernisation. This dichotomy is echoed in the following excerpts from indigenous studies on the impacts of post-fordism:

> When an indigenous community or farmer can no longer sustain a viable standard of living on their own land. When they are forced to enter into a commercial arrangement with a company, be it national or international, in order to use their land for someone else's purpose and commercial profit - then this is *te noho kore mana*. The new technologies can actually serve to disempower indigenous peoples in the most fundamental ways (Mead, 1996: 10).
>
> Indigenous peoples, undoubtedly, are the ones most adversely affected by globalisation and by the WTO agreements. However, we believe that it is also us who can offer viable alternatives to the dominant economic model. Our sustainable lifestyles and cultures, traditional knowledge, cosmologies, spirituality, values of collectivity, reciprocity, respect and reverence for Mother Earth, are crucial in the search for a transformed society where justice, equity and sustainability will prevail (Indigenous People's Seattle Declaration, 1999: 13).[68]

As the above passages on *Māori/*indigenous people's location in late-modernity reveal, the prevailing predicament of cultural survival pressingly comes to the fore. Overall, there has been a growing interest toward the survivability of indigenous knowledge in late-modernity (Castells, 2004; and Havemann, 2002a; 2002b). My key interest is the continued adaptability of *Māori* reflexivity throughout the intensity of post-fordism, with specific regard to *Māori* adaptive strategies of late-modernity. For further details see *Chapter 6*.

At the crux of post-fordism, is the hyper-acceleration of late-modern reflexivity. Its key attributes are identified in my remaining discussion on the epochal change context of the relations of definition.

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[68] Pronounced at the third Ministerial Meeting of the World Trade Organisation, 30 November - 3 December 1999. For further details see <http://www.ratical.org/co-globalize/IPSD.html.

In late-modern reflexivity, there is an increasing sense of distance and separateness between humans and their locale/environment, as articulated in the place versus space-based concept (Castells, 1997; 2004; Castells et al., 2004; Dirlik, 1998; Giddens, 1996; Hornborg, 1994; and Pranzniak et al., 2001). Centrally, it eventuates during enhanced social reflexivity or rapid reflexivity, from the information age bombardment of knowledge and information.

One is constantly forced to revise the self-identity. The primary identity associated to 'place' becomes replaced by the information age identity struggle with incoming knowledge and information. This creates the sense of 'distance' from 'place'. Thereby, place versus space-based refers to the enhanced reflexive processes of identity re-construction in the information age.

Many writers (both *Māori/*indigenous and western European) have examined place versus space-based - the consensus being that it is a multi-cultural phenomena. However, some indigenous and sociological studies writers argue that impacts on *Māori/*indigenous communities are especially devastating or detrimental to their cultural survival (Dirlik, 1998; Escobar, 2001; and Pranzniak et al., 2001). This is more closely examined from a late-modern viewpoint of the *Māori* people-environment relationship in *Chapter 6.*

Another key attribute of late-modern reflexivity is the cosmopolitan or multi-cultural people relationship now manifesting in the relations of definition (Christodoulidis, 1998; Etzioni, 2004; and Tam, 1998). Cosmopolitan is essentially about worldwide connections and affiliations between peoples. It crosscuts nation state boundaries. The over-riding influence is the global networking of people through the internet. Altogether, this creates a sense of 'community'; this being, the vital socio-cultural connection in cosmopolitan.

Most crucially, there is a negative (referring to hegemonic) and positive (referring to counter-hegemonic) side to cosmopolitan. Both have important implications for *Māori/*indigenous peoples (Cohen et al., 2000). On one side, the global community provides a valuable platform for the advocacy of

environmental concerns - especially from a *te ao Māori/*IK advocation of conservation over growth *(Chapter 6).* However, cosmopolitan can be used to advocate hegemony through growth over conservation *(Chapters 6 - 7).*

Havemann (2002a)[69] provides a useful conceptual framework for my research purpose of differentiating hegemonic and counter-hegemonic cosmopolitan, as exemplified in *Tables 2.10a,b.* As he illustrates, cosmopolitan thought is transplanted into the definitional struggle between the powerful or hegemonic, referring to 'Washington consensus globalism' and the oppressed or counter-hegemonic, referring to 'cosmopolitan globalism'.

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[69] The source of Havemann (2002a) has been modified for my research purposes here. Thus, *Tables 2.10a,b* is a modification from the original.

Table 2.10a[Note] **Hegemonic and counter-hegemonic cosmopolitan - conceptual framework**

Hegemonic cosmopolitan	*Counter-hegemonic cosmopolitan*
Type of community	
Communitarian statism	Place-based communitarianism
Type of global community	
Washington consensus globalism	Cosmopolitan globalism

Table 2.10b Hegemonic and counter-hegemonic cosmopolitan - definitional framework

Term	*Definition*
Communitarian	Proposes that appropriate conceptions of what is right for the political community, and organisational resources for the community's fate and fortunes, ought to follow from its cultural, political and institutional traditions and territorial boundaries.
Place-based communitarianism	Local, traditional, *Māori/*indigenous peoples' perspective of community based on tradition, spirituality, conservation and holism.
Washington consensus globalism	The hegemonic monetarist economic ideology shared by Bretton Woods institutions such as the World Bank and International Monetary Fund, as well as the WTO, OECD, USA government and American capital.
Cosmopolitan globalism	Is grounded in historical communities of identity constructed around the local, representing those who are attached to place and tradition.

Focally, it is in the epistemological struggle over world resource use and development, that such hegemony and counter-hegemony is expressed through cosmopolitan. In hegemonic Washington consensus globalism, cosmopolitan is used rhetorically, underpinned by the drive for growth. By contrast, counter-hegemonic cosmopolitan globalism relates to place-based relationships with the environment, driven by the concern for conservation over growth.

[Note] From Havemann, P. (2002a). The Participation Deficit: Globalization, Governance and Indigenous Peoples. In <u>Balayi: Culture, Law and Colonisation.</u> Australia: University of Technology Sydney Press. Copyright 2002a by Havemann, P. Adapted with permission.

At the forefront of the reflexive practice of cosmopolitan hegemony and counter-hegemony is the inter-meshing of global and local reflexivity, as centrally theorised in the 'glocal' concept. In late-modern reflexivity, glocal holds both pros and cons. On the positive side, the plight of conservation is opened up on the world stage, though fraught with the underlying hegemony of growth over conservation; that being, the negative side.

The pro/con dichotomy of glocal is focal to the late-modern plight of *Māori/*indigenous peoples. On one side, there is an increasing onus to advocate indigenous knowledge at the global level of environmental governance. In comparison, inadequate theorising of local *Māori/*indigenous reflexivity forestalls their participatory contributions on the world stage. This is further examined in *Chapters 4 - 7.*

Having located the epochal change context of hyper-accelerated reflexivity in the relations of definition, the following sub-section briefly locates reflexive processes of synergy in paradigmatic shifts of reflexive modernisation.

2.6.13 *Comparison of late-modern paradigmatic shifts - reflexive modernisation and synergy*

Lastly, the paradigmatic shifts of late-modernity pertain to the definitional struggle over resource for use versus resource for life or survival. Reflexive modernisation encapsulates the transitory change processes brought into the relations of definition of late-modernity. This brings the entire epochal evolution of modernity into the equation, as reflexive modernisation (as located in late modernity) is in transition from the modern epoch (as evolved from non-modernity). What this means is that we are caught between the fight for growth in the relations of production, versus the struggle for survival or life in the relations of definition.

Considering that our species very existence is now more at stake in late-modernity, the search for synergy in reflexive modernisation is most pressing. As Rifkin (1998) and Mead (1996) stress in the following passages:

> While the politics of the industrial age were fought along a spectrum of left to right, the emerging politics of the biotechnology century is beginning to create a new spectrum, with a belief in the intrinsic value of life on one pole pitted against the belief in its utility value on the other (Rifkin, 1998: vi).

> Human genes are being treated by science in the same way that indigenous 'artifacts' were gathered by museums; collected, stored, immortalized, reproduced, engineered – all for the sake of humanity and public education, or so we are asked to believe. One wonders just how far we've actually come. Is this development? Is it good science? (Mead, 1996: 46).

Both authors encompass the playing out of the epistemological struggle between western scientific knowledge and *te ao Māori* underlying the relations of definition in reflexive modernisation - my key focus in the search for synergy. As they illustrate, on one side there is an emphasis on growth underpinned by hegemonic western scientific knowledge. Their commentaries highlight the critical danger that consuming growth plays in the relations of definition.

In comparison, however, they also remind us of the pressing concern for sustainability in the relations of definition. This brings in the And/Also stance to nuanced problem solving of late-modernity. Such And/Also theorising engages reflexive problem solving between worldviews as exemplified in the above commentaries. Therefore, the cross-cultural thinking of And/Also is most critical to my search for synergy.

In the nuanced reality of reflexive modernisation, both western scientific knowledge and *te ao Māori* hold a transitory position between epochs. On one side, western scientific knowledge is under transformation from underpinning modern growth to a realisation of sustainability. In comparison, indigenous knowledge reflexively adapts to encroaching growth through either the resurrection or abandonment of *ngā tikanga tūpato*. Potential synergy occurs in this transition.

Thus, my central concern is the synergistic potential of hyper-accelerated reflexivity in paradigmatic shifts of reflexive modernisation. Focally, it involves both the convergences and divergences between *Māori* and western scientific epistemologies in the quest for sustainability. My key interest is in the synergistic potential of the convergences in enhancing a sustainability impetus in the relations of definition.

In section *2.6,* the above comparative analysis located synergistic processes of hyper-accelerated reflexivity of the late-modern epoch. Overall, the discussion concluded my comparison of evolving reflexivity over time.

To review, the theoretical applications of epochal change analysis were applied to locate synergy throughout modernity. Thus, the section culminated my theorising of reflexivity in the chapter.

2.7   Conclusion

In conclusion, this chapter presented the modernity theoretical context for articulating and locating my analysis of synergy at the contemporary period of reflexive change. It was intended that this reflexive theorising would set the theoretical foreground from which And/Also is theorised in the theory-methodological framework of the study (the subject of the next chapter).

Nuanced problem solving was built into my use of modernity through an explicit *Māori*/indigenous location in modernity. A significant amount of modernity re-thinking was required, due to hegemonic modernity theorising of the non-western world. Counter-hegemonic *Māori* modernity theorising injected a much needed theory platform for locating *Māori* reflexivity in synergistic value change.

However, the focal point of my nuanced problem solving in the chapter, was a *Māori* theoretical articulation of synergy and reflexive modernisation. To understand such a contemporary, and transitory phenomena, demanded a communication tool appropriate to these conditions. Hitherto, modernity theorising was used for the sole purpose of communicating a much needed

epochal change framework for locating synergy in transitory processes of reflexive modernisation from the *Māori* reflexive stance of the study.

Chapter 3
Non-modern And/Also Modern - searching for synergies between western scientific knowledge and indigenous knowledge

3.1 Introduction

Part 1 of the thesis theorised the comparison of values (that is, And/Also) in the search for synergy, termed 'nuanced problem solving'. I have presented the theoretical development and application of And/Also nuanced problem solving *(Preface, Prelude* and *Chapters 1 - 2)*. In this remaining chapter, I elaborate on its methodological development and application, from which the search for value balance is conducted in *Part 2* of the thesis *(Chapters 4 - 8)*.

This thesis encapsulates my quest for a nuanced reality (that is, an And/Also epistemology) which allows the best of *te ao Māori (ngā tikanga tūpato)/*indigenous knowledge/IK to be used synergistically with western scientific knowledge/WSK as the base for best practice in ecological governance. Such subtleties of my theorising on non-modern (that is, the nuanced reality of IK) and/also modern (that is, the nuanced reality of WSK) were introduced macro theoretically *(Preface, Prelude* and *Chapters 1 - 2)*. In *Chapter 3,* an And/Also epistemological approach is employed methodologically, starting with a brief introduction to the And/Also nuanced reality of the case study from which the search for ecological governance was conducted. The rest of the chapter lays out the methodological development and application of And/Also nuanced problem solving, focusing on the design of the methods and their employment.

3.2 Comparison of value balance in cross-tribal local river *kaitiakitanga* and inter-governmental institutional environmental governance

In this section I introduce the comparison of value balance cross-tribally in the three *Māori* river community case studies, termed 'cross-tribal local river *kaitiakitanga'* and inter-governmentally in the five environmental authority case studies, termed 'inter-governmental institutional environmental governance'. Beforehand, ecological governance is briefly introduced from my

And/Also stance on non-modern And/Also modern in the search for synergies between indigenous knowledge and western scientific knowledge.

3.2.1 Searching for ecological governance

The search for ecological governance is at the heart of the comparison of value balance. With my key focus on the participation of *Māori* stakeholders under the *Resource Management Act 1991,* this must include for legal, moral and practical reasons a governance system based on Treaty promises which requires respect for cultural treasures, *taonga* and customs, *tikanga.*

3.2.2 Knowledge/value contestation under the Resource Management Act 1991 and the ecological nexus of converging values

Reconciling contesting *Māori* and western scientific conservation and use values underpinning *Aotearoa* environmental governance is a major problem yet to be overcome. Continual emphasis on differences and distinctions between the traditional and spiritual values of *te ao Maori*/indigenous knowledge and the empirical and technocratic values of western scientific knowledge has persistently failed to resolve existing contestations, termed the oppositional And/Or stance of difference/distinction discourse. In oppositional And/Or, the western scientific knowledge and liberal European capitalist approach to governance including environmental conservation, termed 'resource for use' is pitted against the traditional, state free and holistic world-view of indigenous knowledge. This highlights the apparent incompatibility, which is wholly or relatively impervious to *te ao Māori/*indigenous knowledge and to respecting the ecological stewardship *(kaitiakitanga)* of *Māori/*indigenous people.

It is this critical dichotomy that my synergistic approach of value comparison/balance seeks to overcome by comparing both the difference and affinity of values, termed the synergistic And/Also stance of similarity/affinity discourse. The key focus being on the ecological nexus of converging post-materialist green and *ngā tikanga tūpato* values between knowledge/value systems, termed 'resource for life' such as conservation-based environmental stewardship, concerted and respected stakeholder participation and holistic multi-dimensionality.

Taken together, value balance is compared between the oppositional And/Or and synergistic And/Also stances exemplifying such values in the search for good ecological governance. My summary chart is provided in *Table 3.1*.

Table 3.1 Comparison of value balance in the search for good ecological governance - summary chart

Oppositional And/Or		Synergistic And/Also
- liberal, European capitalist WSK values	- traditional, holistic and state free IK values	- potential synergies of WSK and/also IK values
anthropocentrism biological determinism dualism economic determinism empiricism individualism mechanism reductionism	*aroha* *kaitiaki* *kotahitanga* *manaaki* *mauri* *wāhi tapu* *wairua* *whakapapa* *whānau*	• conservation-based environmental stewardship • concerted and respected stakeholder participation • holistic multi- • dimensionality

3.2.3 The And/Also stance on non-modern And/Also modern

As liberal enlightenment rationality through western scientific knowledge discounts *te ao Māori*/indigenous knowledge and *ngā tikanga tūpato,* the macro sociologists epochal categories of nuanced reality such as pre-modern, modern, late-modern and reflexive modernisation have tended to deny the reflexivity of *Māori/*indigenous peoples through the pre-modern category. By overcoming this non-reflexive viewpoint an And/Also stance on the search for potential synergies between western scientific knowledge and indigenous knowledge may be achieved.

The more nuanced reality category of 'non-modern' is employed with modern because both *Māori* and *Pākehā* are both reflexively engaged in reinventing themselves as part of the inexorable reflexive modernization processes based on new knowledge and insights into the use and nature of knowledge. We now live in an epoch (that is, late-modernity) in which there is a nexus of values shared by the modern post materialist approach and the holistic and ecological-oriented approach of *te ao Māori*/indigenous knowledge. Therefore, my And/Also stance on such an epistemological space of shared new knowledge/insights is potentially significant in revolutionary terms of late-

modern knowledge/value change, as reflexively engaged by reference to the phrase 'modern and/also non-modern'.

Furthermore, my *Māori* kinship affiliated, termed 'insider researchers', exploration of WSK/IK dissonance and reconciliation is methodologically employed from an And/Also stance which comes from the practical flax roots up and from macro-level theory down involving much original And/Also nuanced problem solving, as detailed throughout the chapter.

3.2.4 Embracing the subtleties of Aotearoa synergistic value change under the Resource Management Act 1991

The search for value balance in good ecological governance was comparatively examined in a three month empirical case study fieldwork period from May 1 - July 31, 2003. I embraced the subtleties of *Aotearoa* synergistic value change under the *Resource Management Act 1991* both socio-culturally and institutionally. On the socio-cultural side, it entailed my cross-tribal empirical investigation of the *Māori* river *kaitiaki's* use and non-use of *tikanga* and western science in river user activities of local environmental stewardship in the three *Māori* river community case studies. On the institutional side, it entailed my inter-governmental empirical investigation of the environmental authority worker's use and non-use of *tikanga* and western science in environmental governance approaches, decisions and activities of national, regional and district environmental stewardship in the five environmental authority case studies.

A more in depth account is provided in *Appendix 3.5i.* I also expand on the *Māori* nuanced problem solving approach which was employed to reflexively engage these subtleties underpinning the empirical fieldwork contexts near the end of the chapter.

3.2.5 The socio-cultural side of nuanced reality and the Māori river community case study empirical research

The nuanced reality of the enduring and contested struggle of *Māori* identity *(Māori* reflexivity) was compared throughout an embedded, adaptive coexistence with *Pākehā* culture, discourse and western science in relation to:

- Western capitalist-driven *Waitahanui* river trout fishing;

- Western capitalist-driven *Oparau* river agricultural farming; and

- Western capitalist-driven *Harataunga* river agricultural and aquacultural farming.

The dismantling of customary ties underpinning the *Māori* people-environment relationship and consequential breakdown of socio-cultural affiliations were at the crux of the contesting identity struggle of *Māori* river *kaitiaki* cross-tribally. As I further detail in *Chapters 4, 5* and *7*, this came about with the individualisation of land through the take over of *Pākehā law* and culture from 1840 (referring to the evolutionary time point of the Treaty of *Waitangi*) onwards. Indeed, each *Māori* river community provides a unique case study of *Māori* people's battle for cultural survival and co-opted adaptation of both worlds in the local environmental stewardship of these three rivers. In this study, the cross-representation of such cultural diversity and adaptability is termed 'cross-tribal local river *kaitiakitanga'*.

In the *Waitahanui Māori* people-environment relationship, local river *kaitiakitanga* was distinguished by a contested and authoritative[70] stronghold of majority[71] *Māori* land, lake and river bed ownership in relation to the practice of recreational trout fishing. The *Waitahanui* River ecosystem of my *Ngāti Tutemohuta* affiliation being a world and national renowned trout fishery in the local community of *Waitahanui,* located eleven kilometres south of the lake-side township of *Taupō.*

A location map is displayed in *Figure 3.1.* Background information about my kinship affiliated relationship to the *Waitahanui* River can be accessed in *Appendices 3.2ai,ii,iii,iv.*

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[70] In the *Māori* river community contexts of this study, 'authority' is used with reference to the terms 'dominant power' and 'control'. I note here that this is relative to my comparative analysis of *Māori* reflexivity in cross-tribal local river *kaitiakitanga.*

[71] In the *Māori* river community contexts of this study, 'majority' refers to the greater number of *Waitahanui kaitiaki* in authoritative positions as minority and/or majority shareholder or freehold land owners. I also note here that it is beyond the scope of this study to further expand on the majority land ownership of *Waitahanui Māori kaitiaki.* My research purpose merely being to point out that this was at the heart of authority, power and control in the *Waitahanui* people-environment relationship of cross-tribal local river *kaitiakitanga.* For further details see *Chapter 7.*
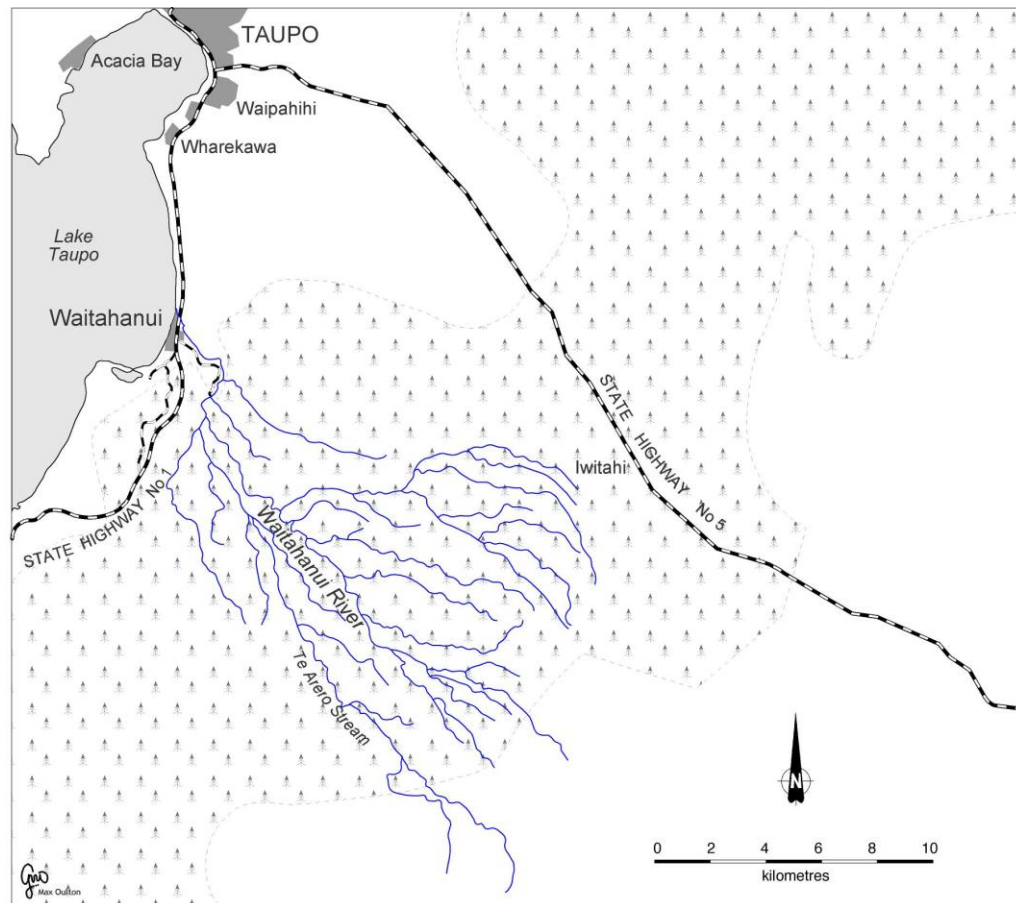
Figure 3.1 *Waitahanui* **River ecosystem - location map**[Note]

Therefore, *Waitahanui* local river *kaitiakitanga* was steeped in an adaptive struggle with the European commercialisation of the *Waitahanui* trout fishery, alongside the encroaching *Taupō* tourist industry of western capitalism. The 2003 fieldwork was conducted at an evolutionary time point of considerable breakdown in the *Waitahanui Māori* people-environment relationship which had reached an extreme level of violent radicalism.

In the *Oparau Māori* people-environment relationship, local river *kaitiakitanga* was distinguished by a contested and authoritative stronghold of majority[72] *Pākehā* land ownership in relation to agricultural farming. The *Oparau* River

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[72] For my research purposes, the term 'majority' refers to the greater number of *Oparau Pākehā kaitiaki* in authoritative positions as land owners. I note here that it is beyond the scope of this study to further expand on the majority land ownership of *Oparau Pākehā kaitiaki.* My research purpose merely being to identify that this was at the heart of power, authority and control in the *Oparau Māori* people-environment relationship of cross-tribal local river *kaitiakitanga.* For further details see *Chapter 7.*

[Note] From Oulton, M. (2003). Contracted maps of the three rivers. Hamilton, University of *Waikato.* Copyright 2003 by Oulton, M. Printed with permission.

ecosystem of my *Ngāti Hikairo* affiliation being an inland, agriculturally-based water body in the local community of *Oparau,* located ten kilometres west of the sea-side township of *Kāwhia.* A location map is displayed in *Figure 3.2.* Background information about my kinship affiliated relationship to the *Oparau* River can be accessed in *Appendix 3.2bii.*
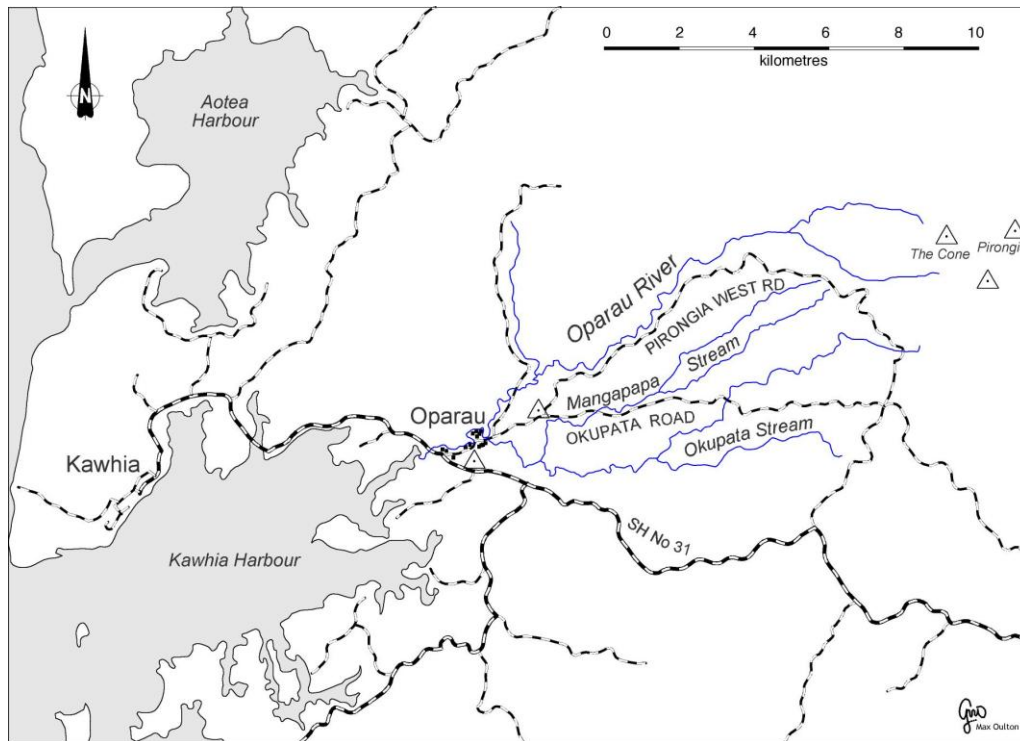
Figure 3.2 *Oparau* **River ecosystem - location map**[Note]

By contrast, *Oparau* local river *kaitiakitanga* was based on an adaptive struggle with European dominance and control over traditional land and river use in the economic driven enterprise of agricultural farming, alongside the encroaching *Kāwhia* tourist industry of western capitalism. The 2003 fieldwork was also conducted at an evolutionary time point of considerable breakdown in the *Oparau Māori* people-environment relationship, whereby the agricultural farming practices along the *Oparau* river were kept under the dominant power and control of *Pākehā* landowners.

[Note] From Oulton, M. (2003). <u>Contracted maps of the three rivers.</u> Hamilton, University of *Waikato.* Copyright 2003 by Oulton, M. Printed with permission.

In the *Harataunga Māori* people-environment relationship, local river *kaitiakitanga* was distinguished by a contested and authoritative stronghold of minority[73] *Māori* land ownership in relation to the practice of agricultural and aquacultural farming. The *Harataunga* River ecosystem of my *Ngāti Porou* affiliation being a coastal and inland water body in the local community of *Harataunga*, located twelve kilometres east of the coastal township of Coromandel. A location map is displayed in *Figure 3.3*. Background information about my kinship affiliated relationship to the *Harataunga* River can be accessed in *Appendix 3.2biii*.

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[73] For my research purposes, the term 'minority' here refers to the lesser number of *Māori kaitiaki* in authoritative positions as majority shareholder or freehold land owners. I note here that it is beyond the scope of this study to further expand on the majority land ownership of minority *Harataunga Māori kaitiaki*. My research purpose merely being to identify that this was at the heart of power, authority and control in the *Harataunga Māori* people-environment relationship of cross-tribal local river *kaitiakitanga*. For further details see *Chapter 7*.
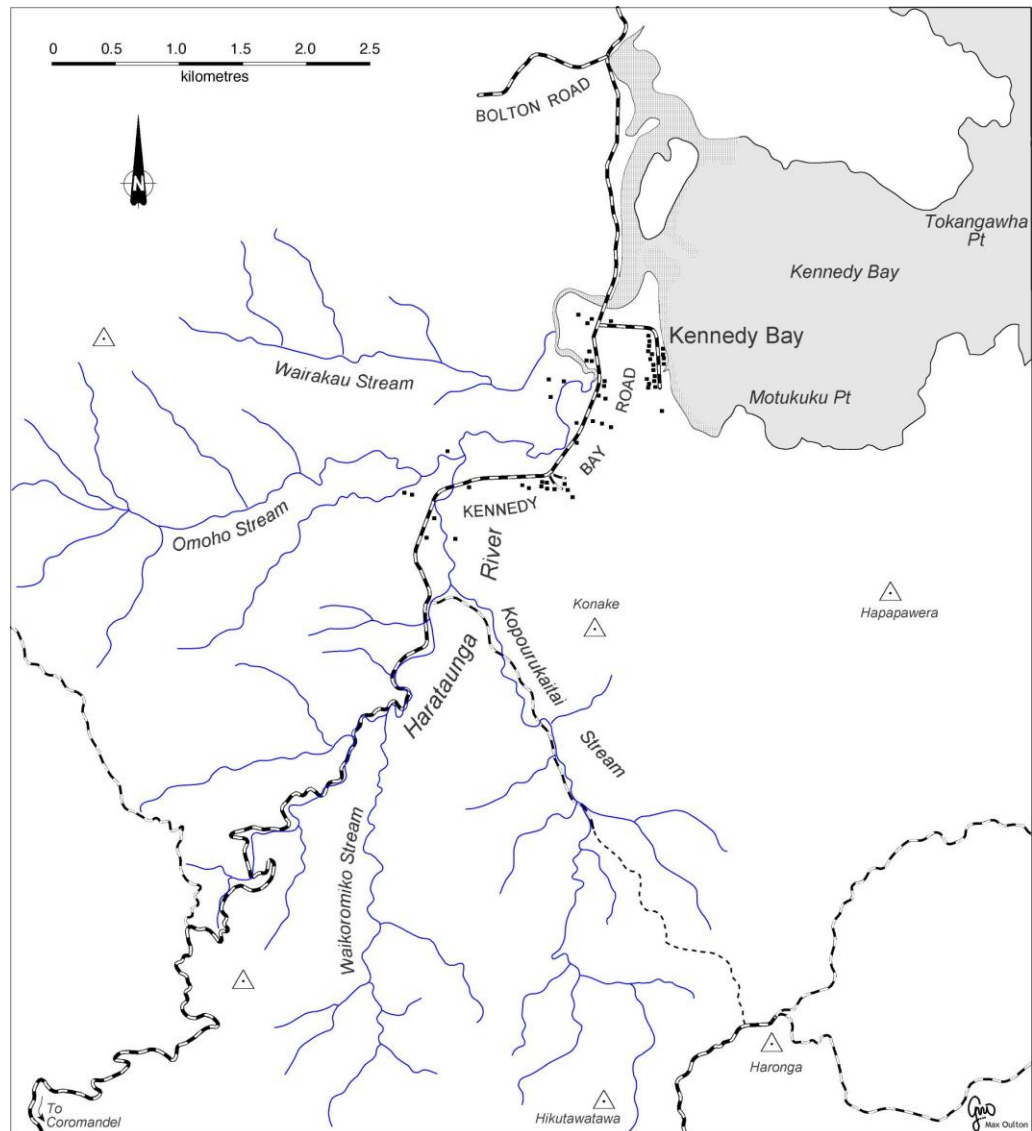
Figure 3.3 *Harataunga* **River ecosystem - location map**[Note]

In comparison, *Harataunga* local river *kaitiakitanga* was based on an adaptive struggle with minority *Māori* dominance and control over traditional land, river and sea use in the economic driven enterprises of agricultural and aquacultural farming, alongside the encroaching Coromandel tourist industry of western capitalism. The 2003 fieldwork was additionally conducted at an evolutionary time point of considerable breakdown in the *Harataunga Māori* people-environment relationship, whereby the agricultural and aquacultural farming practices along the *Harataunga* river were kept under the dominant power and control of minority *Māori* landowners.

[Note] From Oulton, M. (2003). Contracted maps of the three rivers. Hamilton, University of *Waikato*. Copyright 2003 by Oulton, M. Printed with permission.

I note here that it was beyond the scope of this study to deliberate on the intricacies of *Waitahanui, Oparau* and *Harataunga* local river *kaitiakitanga*, as briefly covered in *Chapter 7.* Background information on the contemporary reality of the *Waitahanui, Oparau* and *Harataunga Māori* people-environment relationships can also be found in *Appendices 7.2 - 7.4.*

Considering the local diversity of cross-tribal river *kaitiakitanga,* a cross-sectional sample of local *kaitiaki* (termed 'river users') were selected from the three *Māori* river community case studies: *Waitahanui* river community case study (WCS), *Oparau* river community case study (OCS) and *Harataunga* river community case study (HCS). The *Māori* river community research participant sample consisted of three main types: specific river users (SRU), non-specific river users (NSRU) and *Pākehā* river users (PRU) *(Table 3.2)*. As cross-tribal river *kaitiakitanga* was associated to specific river uses, the sample group consisted mainly of the *Māori* river users of recreational and commercial trout fishing (in relation to the *Waitahanui* River), agricultural farming (in relation to the *Oparau* River), and agricultural and aqua-cultural farming (in relation to the *Harataunga* River), termed the 'specific river users' (SRU).

The two other smaller sized river user types of the sample group provided for the broader scope of cross-tribal river *kaitiakitanga;* these being, the more general *Māori* river users, termed the 'non-specific river users' (NSRU), and the non-*Māori* river users, termed the *'Pākehā* river users' (PRU). I elaborate on the *Māori* river community research participants of the study in *Appendices 3.6bi,ii,iii.* A summarised overview is briefly outlined in *Table 3.2.*

**Table 3.2   The *Māori* river community research participants -
summarised overview**

Māori river community case studies		
WCS	**OCS**	**HCS**
No. and type of river user: specific river user (SRU), non-specific river user (NSRU), PRU river user (PRU)		
15-SRU	5-SRU	9-SRU
8-NSRU	5-NSRU	5-NSRU
4-PRU	3-PRU	4-PRU
Total = 27	Total = 13	Total = 18
Total river users interviewed = **58**		

3.2.6 The institutional side of nuanced reality and the environmental authority case study empirical research

Institutionally, I comparatively examined the hierarchy of environmental agencies listed in *Table 3.3*. The three district councils each contain one of the river communities,[74] and fall within the area of the *Waikato* Regional Council, that is, Environment *Waikato*. At the top of the hierarchy is the Ministry for the Environment, which has the lead role in developing environmental performance indicators for use by sub-national authorities.

Table 3.3   The environmental authority case studies - summary chart

Environmental authority	*Area of indicator governance/ management*
National environmental authority	
Ministry for the Environment	national indicator policy
Regional environmental authority	
Environment *Waikato*	regional indicator policy and planning
District environmental authorities	
Thames-Coromandel District Council	district indicator policy and planning
Otorohanga District Council	district indicator policy and planning
Taupō District Council	district indicator policy and planning

The nuanced reality of the discretionary[75] and authoritative[76] struggle of environmental worker identity (environmental worker reflexivity) was compared throughout the legal-political evolution of the *Māori,* sustainability and environmental monitoring provisions under the *Resource Management Act 1991* in relation to:

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[74] The district councils each contain one of the river case studies as follows:
  i.   Thames-Coromandel District Council and the *Harataunga* River case study,
  ii. *Otorohanga* District Council and the *Oparau* River case study; and
  iii. *Taupō* District Council and the *Waitahanui* River case study. For further details see *Chapters 6* and *7.*

[75] In this study, I argue that the use/non-use of *te ao Māori* and western science was discretionary in the environmental workers reflexive re-construction of identity and values. This was due to the non-mandatory political-legal status of the *Māori* provisions under the *Resource Management Act 1991*, as covered in *Chapters 4 - 5.*

[76] In the environmental authority research contexts of this study, 'authority' is also used with reference to the terms 'dominant power' and 'control'. I note here that my use of these terms (authority, dominant power and control) is relative to the focal area of investigation in inter-governmental institutional environmental governance; that being, the environmental workers reflexive re-construction of identity and values in the discretionary use/non-use of *te ao Māori* and western science under the *Māori,* sustainability and environmental monitoring provisions of the *Resource Management Act 1991 (Chapters 4 - 5).*

- hierarchical capitalist-driven environmental governance and management regimes of the five environmental authority case studies (Ministry for the Environment/MfE, Environment *Waikato/*EW, *Taupō* District Council/TDC, *Otorohanga* District Council and Thames-Coromandel District Council/TCDC), with specific regard to *Aotearoa* environmental performance indicator development under the *Resource Management Act 1991.*

These soft (non-mandatory) and hard (mandatory) law provisions were at the heart of the discretionary and authoritative struggle of environmental worker identity inter-governmentally. As I further detail in *Chapters 4, 5* and *6,* this came about with an emerging global awareness of environmental conservation and the potential role of indigenous knowledge/values in advancing sustainability through the mobilisation of world and national environmental and socio-cultural reform from the 1960-70s forwards.

In comparison, each environmental authority provides a distinctive case example of the co-opted use and non-use of both worlds by the environmental authority worker in national, regional and district environmental stewardship generally and, in the specific terms of the three rivers; that is,

- by the contested and authoritative reconstruction of MfE policy maker identity and values in relation to the practice of national environmental performance indicator development;

- by the contested and authoritative reconstruction of EW policy maker planner, scientist and *iwi* liaison identity and values in relation to the practice of regional environmental governance and management of the three rivers, with specific regard to environmental performance indicator development; and

- by the contested and authoritative reconstruction of TDC, ODC and TCDC policy maker planner and *iwi* liaison identity and values in relation to the practice of district environmental governance and

management of the *Waitahanui, Oparau* and *Harataunga* Rivers, with specific regard to environmental performance indicator development.

In this study, the cross-sectional representation of such reflexivity in my case study examination of *Aotearoa* socio-cultural and environmental reform was termed 'inter-governmental institutional environmental governance*'*.

The 2003 fieldwork being at an evolutionary time point of consolidated Westminster-Keynesian power and authority*,* whereby the use/non-use of *te ao Māori* and western science was held under the discretionary control of these national, regional and district environmental authority workers. I note here that it was beyond the scope of this study to deliberate on the intricacies of the MfE, EW, TDC, ODC and TCDC inter-governmental institutional environmental governance, as briefly covered in *Chapters 4, 5* and *6*.

Since multiple environmental workers were involved in the *Aotearoa* environmental governance and management of the three rivers with specific regard to environmental performance indicator development under the *Resource Management Act 1991,* a cross-sectional sample was also selected from the hierarchy of environmental authorities: Ministry for the Environment (MfE), Environment *Waikato* (EW), *Taupō* District Council (TDC), *Otorohanga* District Council (ODC) and Thames Coromandel District Council (TCDC).

The environmental authority research participant sample consisted of three main types: policy makers (including scientists) (PM), *iwi* liaison officers (IL) and planners (P) *(Table 3.4)*. The environmental performance indicator policy makers worked mainly at the national and regional levels, compared to environmental performance indicator planning work being mostly done at the district level of the hierarchy. In addition*,* *iwi* liaison (IL) workers were evenly spread (generally) across each level. It was this proportional environmental worker representation that set my own selection of the environmental authority research interview sample *(Table 3.4).* Consequently, there were a high number of policy makers at the national and regional levels and a high number of planners at the district level, but an even spread of *iwi* liaison (IL) workers

throughout. I elaborate on the environmental authority research participants of the study in *Appendices 3.6ai,ii,iii,iv,v.* A summarised overview is briefly outlined in *Table 3.4.*

Table 3.4   The environmental authority research participants - summarised overview

Environmental authorities				
MfE	EW	TDC	ODC	TCDC
No. and type of worker: *Policy maker (PM), Iwi liaison (IL), Planner (P)*				
3-PM 1-IL Total = 4	1-P 3-PM 2-IL Total = 6	3-P 1-PM 3-IL Total = 7	3-P 1-PM 2-IL Total = 6	3-P 1-PM 3-IL Total = 7
Total workers interviewed = 30				

3.2.7   The oral and observable data of the research interviews

The case study research on value balance in ecological environmental governance was comparatively investigated in the research interviews of the study two-fold. In the *Māori* river community case study research interviews, it was compared in relation to local river *kaitiakitanga.* The totality of the research interviews being a collective representation of cross-tribal local river *kaitiakitanga.* In the environmental authority case study interviews, it was compared in relation to the environmental governance and management of the rivers with specific regard to the formulation and implementation of environmental performance indicators. The totality of the research interviews being a collective representation of inter-governmental institutional environmental governance.

A short review of the interview topics, observations and questions are covered next *(3.2.8),* with only a brief introduction to participant observation. Participant observation only involved the observations of the research interview, such as its immediate environment; and the personal appearance and behavioural responses of the research participant. These were recorded in the interview fieldwork documentation of the study *(Appendix 3.5jii).* I also took photos in the *Māori* river community case study fieldwork of the study *(Appendices 7.2 - 7.4).*

For my research purposes, I use the term 'topics/observations' to acknowledge but not to further discuss the role that participant observation played in the research interviews. A more detailed account of the wider environmental and socio-cultural context of participant observation in the empirical research follows from section *3.5.14* forwards *(3.5.15 - 3.5.35).*

3.2.8   Interview topics/observations and questions

In the *Māori* river community case study interviews on cross-tribal local river *kaitiakitanga,* I was essentially concerned with the river use activities of the river users.   On the other hand, in the environmental authority case study interviews on inter-governmental institutional environmental governance, I was essentially concerned with the environmental governance and management approaches, decisions, and activities of the environmental authority workers, with specific regard to the formulation and implementation of environmental performance indicators.   For my research purposes, I use the shorthand phrase of 'environmental governance approaches, decisions and activities'.

Three topic/observation areas and questioning approaches were adopted in both cases.   I started with the introductory topic/observation area of the background on the river user activities and river user/environmental governance approaches, decisions and activities; and environmental worker to ascertain the standpoint from which cross-tribal local river *kaitiakitanga/*inter-governmental institutional environmental governance was located within the late-modern value continuum.   This was approached through assessment related questions about the knowledge/value orientation of the river use activities and river user/ environmental governance approaches, decisions and activities; and environmental worker. I also utilised background information from the household survey *(Appendix 3.5c),* and research participant information *(3.5bi,ii)* forms.

The body or main part of the research interview covered the topic/observation area of the practices of river use activities/ environmental governance approaches, decisions and activities to pinpoint the current use/non-use of *tikanga* and western science in cross-tribal local river *kaitiakitanga* and inter-

governmental institutional environmental governance along the late-modern value continuum. This was approached through critiquing related questions about the purposes for the practices of the river use activities and the environmental governance approaches, decisions and activities.

I finished with the concluding topic/observation area of the viewpoints of river use activities and environmental governance approaches, decisions and activities to gauge current trends of *tikanga* and western science in local river *kaitiakitanga* and inter-governmental institutional environmental governance along the late-modern value continuum. This was approached through evaluation related questions about the rationale for the practices of the river use activities and the environmental governance approaches, decisions and activities.

As both the *Māori* river community and environmental authority case study samples provided a diverse representation of cross-tribal local river *kaitiakitanga* and inter-governmental institutional environmental governance, the content of the research interview topics varied across the range of river use activities by the river users; and environmental governance approaches, decisions and activities by the environmental authority workers, termed the 'main and subsidiary sub-topics' (in relation to the *Māori* river community case studies) and 'sub-topic one, two and three' (in relation to the environmental authority case studies).

In the case of the topics and sub-topics (main and subsidiary) of cross-tribal local river *kaitiakitanga,* they were differentiated by reference to the types of river use and river user; that being, the main river uses of recreational and commercial trout fishing *(Waitahanui),* agricultural farming *(Oparau),* and agricultural and aqua-cultural framing *(Harataunga)* by the specific river users of the *Māori* community case studies; and the subsidiary river uses by the general and *Pākehā* river users.

In the case of the topics and sub-topics (one, two and three) of inter-governmental institutional environmental governance*,* they were differentiated

by reference to the types of environmental governance and management approaches, decisions, and activities of the environmental authority workers with specific regard to the formulation and implementation of environmental performance indicators; that being, the environmental governance approaches, decisions and activities of policy makers (sub-topic one), planners (sub-topic two) and *iwi* liaison officers (sub-topic three). Copies of the *Māori* river community and environmental authority case study research interview questionnaires under these topics and sub-topics can be found in *Appendices 3.5oai,ii,iii* and *Appendices 3.5obi,ii,iii.*

Taken together, both sides of the nuanced reality of *Aotearoa* synergistic value change were embraced under the *Resource Management Act 1991;* that being,

- through an explicit comparison of such subtleties socio-culturally, focusing on the local river users reflexive reconstruction of identity and values in these river use activities; and
- through an explicit comparison of such subtleties institutionally, focusing on the environmental authority workers reflexive reconstruction of identity and values in these environmental governance approaches, decisions and activities.

Having introduced my And/Also stance of non-modern And/Also modern on ecological governance in the search for synergies between *te ao Māori* (referring to the *Māori* river case study research) and western scientific knowledge (referring to the environmental authority case study research) empirically, the rest of the chapter elaborates on the methodology which enabled these findings to be made *(3.3 - 3.4).*

3.3 The methodological development and application of And/Also nuanced problem solving

This section presents the methodological development and application of And/Also nuanced problem solving in the study. After setting And/Or and And/Also nationally in *Aotearoa* social science research methodologically *(3.3.1 - 3.3.4)*, I elaborate on my nuanced problem solving efforts to move And/Also beyond And/Or *(3.3.5 - 3.3.8).*

3.3.1 Space seeking and Kaupapa Māori research

> One of the challenges for *Māori* researchers . . . has been to retrieve some space-first, some space to convince *Māori* people of the value of research for *Māori;* second, to convince the various, fragmented but powerful research communities of the need for greater *Māori* involvement in research; and third, to develop approaches and ways of carrying out research which take into account, without being limited by, the legacies of previous research, and the parameters of both previous and current approaches . . . is an attempt to retrieve that space and to achieve those general aims (Smith, 1999: 183).

The *Aotearoa* milestone of And/Also is the *Māori* counter-hegemonic research movement, termed *Kaupapa Māori* research (Bishop, 1996; 1997a; 1997b; 2005; Durie et al., 1998; Irwin, 1992a; 1992b; 1994; Smith, (G)1997; and Smith, (L)1986; 1995; 1999; 2005). As founding *Kaupapa Māori* theorist Smith (1999) explains in the above passage, *te ao Māori* needs epistemological space - taken up by hegemonic western scientific knowledge - to be realised. It is this search for the creation of space for *te ao Māori* alongside western scientific knowledge, which situates *Kaupapa Māori* thinking within And/Also, termed *'Kaupapa Māori* And/Also'.

As Smith (1999) notes in the above quotation, *Kaupapa Māori* research strives to reclaim or empower the authority of *te ao Māori*. This pro-*Māori* research effort originated from the *Māori* renaissance movement of the 1970-80s *(Awatere*, 1981). The political agenda for *Kaupapa Māori* research was pitched at both the national and international levels of social science research (Smith, 1999). Consequently, there was a proliferation of interest in *Kaupapa Māori* thinking (Bevan-Brown, 1998; Cunningham, 1998; Irwin, 1994; *Pihama* et al., 2002; and Royal, 1998). Currently, *Kaupapa Māori* thought is the leading *Māori* research approach in *Aotearoa* social science research.

3.3.2 *And/Or and hegemonic western scientific knowledge as method*

> Out of the discontent with traditional research and its
> disruption of *Māori* life, an indigenous approach to research
> has emerged in *Aotearoa/*New Zealand. This approach,
> termed *Kaupapa Māori* research, is challenging the
> dominance of the *Pākehā* world-view in research . . .
> *Kaupapa Māori* presupposes positions that are committed to
> a critical analysis of the existing unequal power relations
> within our society, those structures that work to oppress
> *Māori* people . . . There are a number of significant
> dimensions to *Kaupapa Māori* research that set it apart from
> traditional research . . . self-determination . . . collectivistic . .
> . oriented toward benefiting all the research participants . . .
> practice of being and acting *Māori* . . . an orientation in
> which *Māori* language, culture, knowledge and values are
> accepted in their own right . . . the cultural aspirations,
> understandings and practices of *Māori* people are used both
> literally and figuratively to implement and organize the
> research process . . . epistemologically based within *Māori*
> cultural specificities, preferences and practices (Bishop,
> 2005: 9 - 11).

As exemplified in the above commentary of Bishop (2005), *Kaupapa Māori*
thought appropriates hegemony to counter the silencing of a *Māori*/indigenous
voice (Bishop, 1997a; 1998b; 2000; 2005; *Pihama* et al., 2002; and Smith
1999). Essentially, the cons of hegemonic western scientific knowledge are
countered against the pros of incorporating *te ao Māori (Mataira,* 2001).
Hegemonic traits of western scientific knowledge, such as supremacy and
economic and biological determinism, are put forward in opposition to *te ao
Māori.* The key effect is that it brings And/Or into the And/Also stance of
Kaupapa Māori research, termed *'Kaupapa Māori* And/Or'.

Kaupapa Māori And/Or usefully highlights the disempowering theory-
methodological underpinnings of hegemonic western scientific knowledge -
more commonly known as the 'scientific method' (Bishop, 1996; Durie et al.,
1998; Jackson, 1998; and Smith, 1986; 1995). Primarily, it applies to the linear,
inductive and empirical attributes of western scientific knowledge. This is often
conceived by reference to the research field of 'quantitative social science
methodology' (Grbich, 1999; and Sarantakos, 1998).

It is the use of scientific method developed for the study of the natural world by social scientists in the study of the social world, which is especially hegemonic (Denzin et al., 1994; Sarantakos, 1998; and Unwin, 1992). At the crux, are underpinning epistemological orientations based on pre-modern thought concerning *Māori*/indigenous peoples.

Indeed, many writers on *Kaupapa Māori* research emphasise how such backward thought is in opposition to the empowerment of *te ao Māori* (Bishop, 1998a; 1998b; Durie et al., 1998; Irwin, 1992a; 1992b; Jackson, 1998; and Smith, 1997). Overall, this opposing strategy of *Kaupapa Māori* And/Or is employed in order to advance *Māori.* Thereby, hegemonic western scientific knowledge as method comes to the fore through the *Kaupapa Māori*-And/Or viewpoint.

3.3.3   *Kaupapa Māori research and counter-hegemony*

Writers on *Kaupapa Māori* research pit *te ao Māori* against hegemonic western scientific knowledge from a counter-hegemonic stance (Bishop, 2005; Smith, 1996; and *Pihama* et al., 2002). Instead, *Māori* epistemology constitutes one's validation of social reality. Hegemony is countered by the promotion of *Māori* culture. Thereby, epistemological space is 'gained' through establishing the credibility of *te ao Māori*. A detailed account can be found in *Appendix 3.1.*

Innermost, is the counter-hegemonic theme on the importance of cultural safety through research methods based on *Māori* cultural practices, protocols and standards (Durie, 1994; Irwin, 1994; and Smith, 1997). Such adherence to *Māori* culture seeks to dismantle the hegemony of western scientific knowledge as method, which serves to belittle *te ao Māori* (Bishop, 1997a; 2005). The stress on these alternative methods more commonly associates *Kaupapa Māori* research as method to the scholarly field of 'qualitative' or non-scientific social science methodology, although it can also be effectively applied in quantitative research (Bishop, 2005; and Denzin et al., 2005).

3.3.4 Kaupapa Māori and qualitative research methods

The methodological approach of *Kaupapa Māori* research aligns with qualitative methods in the social sciences on a similar agenda of dismantling hegemonic western scientific knowledge (Bishop, 1997a; 1998b; Denzin et al., 1994; 2005; Fairclough, 1992; Good, 1994; Grbich, 1999; and Sarantakos, 1998). The non-*Māori* qualitative research methods of this study are used with the same intention. My non-*Māori* qualitative research methods are identified and defined in *Table 3.5*. Focally, they are people or social construction-based methods, oriented toward multiple realities.

Table 3.5   The non-*Māori* qualitative research methods of the study - summary

Qualitative research method	*Definition*
case studies	specific construction of reality method
constructionism	multiple construction (social) of reality method
discourse analysis	epistemological analytical method
focus groups	multiple research participant method
household survey	local community data gathering method
individual interviews	single research participant method
participant information sheet	personal data gathering method
participant observation	researcher participation method
triangulation	multiple usage and cross-validation of research methods/findings

The non-*Māori* methodologies of the study incorporate counter-hegemonic features that converge with methodological underpinnings of *Kaupapa Māori* research *(Table 3.1)*. These include the basic counter-hegemonic methodological features of power sharing, informed consent, sensitivity and respect, empowerment, researcher accountability/responsibility and ethical conduct as researcher (Grbich, 1999; Hammersley, 1983; Sarantakos, 1998; and University of *Waikato,* 2001; 2004). Taken together, counter-hegemony is applied universally in both the *Māori* and non-*Māori* methodologies of the study.

Nevertheless, *Kaupapa Māori* research methods can be differentiated from non-*Māori* methodology (Smith, 1995), as articulated by reference to the *Māori* methods of the study. It is the cultural-specificities of *Māori* epistemology that

are culturally distinct and unique - thus, making them non-universal (Durie, 1994; and Walker, 1987; 1990). Either they are the ascribed - referring to inborn cultural attributes such as *wairua, whakapapa, whānau*, or non-ascribed - referring to non-inborn or acquired cultural attributes of *te ao Māori*, such as *te reo Māori, Māori* language. I draw on both ascribed - referring to my methodological uses of *whakapapa, wairua* and *whānau,* and non-ascribed - referring to my methodological uses of apprenticeshiping and *whānaungatanga - Māori* methods, in this study.

Altogether, And/Or forestalls And/Also in the And/Or-And/Also methodological context of *Aotearoa* social science research.

3.3.5   Employing And/Also nuanced problem solving methodologically

Therefore, in order to move And/Also beyond And/Or my And/Also nuanced problem solving was methodologically employed two-fold. First, it was employed from macro-level theory downwards; that is, as transcended down the medium (meso) and low (micro) abstract thought levels of modernity. This unlocked my reflexive engagement with the subtleties of nuanced reality transcending upwards at the concretised (micro modernity) context of the empirical case study research. Secondly, it was employed from the practical flax roots upwards; that is, as transcended up the meso and micro abstract thought levels of modernity. This unlocked my reflexive engagement with the subtleties of nuanced reality transcending downwards at macro-level theory on modernity.

Considerable original And/Also nuanced problem solving was required methodologically from macro-theory down and from the practical flax roots up. A more in depth account on the later is provided in the upcoming final section (*3.4).*

Thereof, I utilised existing and new methods and techniques for locating and detecting synergy in the search for value balance, termed 'the meso and micro methods and techniques of the study'. My summary chart is provided in *Tables 3.6a,b.* Background information can also be found in *Appendices 3.2 - 3.7.*

Tables 3.6a,b   The meso and micro methods and techniques of the study - summary charts
Table 3.6a   The meso methods and techniques of the study - summary chart

MESO METHODS AND TECHNIQUES FOR LOCATING SYNERGY		existing or new	
method/techniques	use	*symbol* √	×
		meaning applicable	non-applicable
• meso knowledge/value trajectory method and signposting map technique[77]	• formulating the search for value balance meso abstractly	new √	existing ×
• meso modernity context, concepts and critiques of value comparison method and signposting map technique[78]	• articulating the search for value balance meso abstractly	new √	existing ×
• library research method[79]	• collecting the meso documents	existing √	new ×
• documented data collating technique[80]	• collating the meso documents	new √	existing ×
• documented data tabulating technique[81]	• tabulating the meso documents	new √	existing ×
MESO METHODS AND TECHNIQUES FOR DETECTING SYNERGY			
• discourse analysis method[82]	• analysing the meso documents	existing √	new ×
• documented data scanning technique[83]	• scanning the meso documents	new √	existing ×
• documented data assessment technique[84]	• assessing the meso documents	new √	existing ×

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[77] For further details see *Appendices 3.5p,q.*
[78] For further details see *Appendices 3.5r,s.*
[79] For further details see *Appendix 3.5a* and *Appendix 3.5j.*
[80] I expand on the documented data collating technique in *Appendix 3.5ki.*
[81] I expand on the documented data collating technique in *Appendix 3.5kii.*
[82] For further details see *Appendix 3.5a* and *Appendix 3.5l.*
[83] I expand on the documented data scanning technique in *Appendices 3.5mia,b.*
[84] I expand on the documented data assessment technique in *Appendix 3.5mii.*

Table 3.6a   The meso methods and techniques of the study - summary chart (continued)

MESO METHODS AND TECHNIQUES FOR DETECTING SYNERGY		
• documented data coding technique[85]	• coding the meso documents	new √ | existing ×
• documented data triangulation technique[86]	• cross-checking the meso documents	new √ | existing ×

Table 3.6b   The micro methods and techniques of the study - summary chart

MICRO METHODS AND TECHNIQUES FOR LOCATING SYNERGY		existing or new	
method/techniques	Use	*symbol* √	×
		meaning applicable	non-applicable
• micro knowledge/value trajectory method and signposting map technique[87]	• formulating the search for value balance micro abstractly	new √	existing ×
• micro modernity context, concepts and critiques of value comparison method and signposting map technique[88]	• articulating the search for value balance meso abstractly	new √	existing ×
• library research method (*Appendix 3.5a* and *Appendix 3.5j*)	• collecting the micro documents	existing √	new ×
• participant observation method (*Appendix 3.5a* and *Appendices 7.1a,b,c*)	• collecting the micro observable[89] data	existing √	new ×
• individual and focus group interview methods (*Appendix 3.5a* and *Appendices 3.5oa,b*)	• collecting the micro oral data	existing √	new ×

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[85] I expand on the documented data coding technique in *Appendices 3.5miiia,b.*
[86] I expand on the documented data triangulation technique in *Appendices 3.5miva,b.*
[87] For further details see *Appendices 3.5p,q.*
[88] For further details see *Appendices 3.5r,s.*
[89] I expand on the micro observable data in *Appendices 3.5gi,ii,iii,iv* (fieldwork observations) and *Appendices 7.2 - 7.4* (photographs).

Table 3.6b   The micro methods and techniques of the study - summary charts (continued)

MICRO METHODS AND TECHNIQUES FOR LOCATING SYNERGY		existing or new	
method/techniques	Use	*symbol* √	×
		meaning applicable	non-applicable
• apprenticeshiping technique (*Appendices 3.2 - 3.4*)	• reflexively incorporating both the pro's and con's of the *Māori* and non-*Māori* mentors and one's own life apprenticeship into the documented, oral and observable data collection process	new √	existing ×
• case study method (*Appendix 3.5a*)	• compiling the micro documented, oral and observable data	existing √	new ×
• *Māori* methods (that is, the *wairua, whakapapa* and *whānau* models of the study) (*Appendices 3.2 - 3.4*)	• incorporating *Māori* culture into the documented, oral and observable data collection process	new √	new ×
• documented, oral and observable data collating technique (*Appendix 3.5ki*)	• collating the micro documented, oral and observable data	new √	existing ×
• documented, oral and observable data tabulating technique (*Appendix 3.5kii*)	• tabulating the micro documented, oral and observable data	new √	existing ×
• household survey technique (*Appendix 3.5c*)	• collecting local demographic data	existing √	new ×
• fluidity technique (*Appendices 3.2 - 3.4*)	• reflexively using and non-using the *Māori* and non-*Māori* methods as required	new √	existing ×
• prior, immediate and consolidated *whakawhānaungātanga* techniques (*Appendices 3.2 - 3.4*)	• incorporating the inter-connections of *Māori* cultural loss and survival into the oral and observable data collection process	new √	new ×

Table 3.6b   The micro methods and techniques of the study - summary charts (continued)

MICRO METHODS AND TECHNIQUES FOR LOCATING SYNERGY			
• documented, oral and observable data collating technique[90]	• collating the micro documented, oral and observable data	new √	existing ×
• documented, oral and observable data tabulating technique[91]	• tabulating the micro documented, oral and observable data	new √	existing ×
MICRO METHODS AND TECHNIQUES FOR DETECTING SYNERGY			
• discourse analysis method (*Appendix 3.5a* and *Appendix 3.5l*)	• analysing the micro documented, oral and observable data	existing √	new ×
• documented, oral and observable data scanning technique (*Appendices 3.5mia,b*)	• scanning the micro documented, oral and observable data	new √	existing ×
• documented, oral and observable data assessment technique (*Appendix 3.5mii*)	• assessing the micro documented, oral and observable data	new √	existing ×
• documented, oral and observable data coding technique (*Appendices 3.5miiia,b*)	• coding the micro documented, oral and observable data	new √	existing ×
• documented, oral and observable data triangulation technique (*Appendices 3.5kiva,b*)	• cross-checking the micro documented, oral and observable data	new √	existing ×

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[90] I expand on the documented, oral and observable data collating technique in *Appendix 3.5ki*.
[91] I expand on the documented, oral and observable data tabulating technique in *Appendix 3.5kii*.

In the following, the above And/Also methodological design *(Tables 3.6a,b)* is briefly reviewed starting generally then more specifically on the macro-level nuanced problem solving which was methodologically employed downwards through the meso and micro methods for locating and detecting synergy .

3.3.6   And/Also methodological design - general review

More generally, my And/Also methodological design relates to both the formulation and articulation of the search for value balance, as follows.

3.3.7   Formulating and articulating the search for value balance

The search for synergistic balance was formulated and articulated from the high abstracted modernity context, concepts and critiques of the *te ao Māori* and western scientific knowledge/value trajectory on global environmental governance and change downwards; that is,

- through the meso context, concepts and critiques; and meso knowledge/value trajectory methods *(Table 3.6a)*:
- by the methodological employment of a meso documented data knowledge/value trajectory on *te ao Māori* and western scientific paradigmatic shifts throughout the evolution of sustainability (SDP), the *Resource Management Act (RMA) 1991,* environmental monitoring (EM) and environmental performance indicator development (EPI) at world and national environmental governance and change, and

- through the micro context, concepts and critiques; and micro knowledge/value trajectory methods *(Table 3.6b)*:
- by the methodological employment of a micro documented, oral and observable data knowledge/value trajectory on *te ao Māori* and western scientific paradigmatic shifts throughout the evolution of inter-governmental institutional environmental governance and cross-tribal local *kaitiakitanga* at national/*Aotearoa* environmental governance and change.

These methods formulate and articulate the search for value balance throughout it's location in the evolution of synergistic value change, as

transcended from macro-theory nuanced problem solving downwards. Utilising the signposting map techniques *(Tables 3.6a,b)* exemplifying the macro-theory evidential history of *te ao Māori* and western scientific paradigmatic shifts at the high abstracted knowledge/value trajectory *(Appendices 3.5p-s),* documented evidence on synergistic value change was comparatively analysed both meso and micro (and oral and observable evidence) evidentially under these nuanced problem solving terms of reference.

On the formulation side, as the search for synergistic balance was compared at the cutting edge of knowledge/value change in ecological environmental governance, I collected documented evidence considered authoritative in the creation or generation of knowledge/information on world and *Aotearoa/*national environmental governance and change. Meso-abstractly, these were scholastic works, such as published books, journal articles, theses, dissertations, environmental policy/planning documents and internet data. A detailed account can be found in the reference section of the thesis. The world and *Aotearoa/*national environmental governance documented data is listed by the non/applicability to the data topics of the study. My summary charts are provided in *Tables 3.7a,b.*

Tables 3.7a,b   The world and national environmental governance data of the study - summarised overview

Table 3.7a   The world environmental governance data of the study - summarised overview

Type of document	Data topics			
	Symbol Meaning	√ applicable		× non-applicable
	SDP	*RMA 1991*	EM	EPI
• published books	√	√	√	√
• published journal articles	√	√	√	√
• doctoral theses	√	√	√	√
• masters theses	√	√	√	√
• dissertations	√	√	√	√
• environmental policy documents	√	√	√	√
• environmental planning documents	×	√	×	×
• internet data	×	×	×	√

**Table 3.7b   The national environmental governance data of the study -
summarised overview**

Type of document	*Symbol Meaning*	Data topics		
		√ applicable		× non-applicable
	SDP	*RMA 1991*	EM	EPI
• published books	√	√	√	√
• published journal articles	√	√	√	√
• doctoral theses	√	√	√	√
• masters theses	√	√	√	√
• dissertations	√	√	√	√
• environmental policy documents	√	√	√	√
• environmental planning documents	×	√	×	×
• internet data	×	×	√	×

Micro-abstractly on inter-governmental institutional environmental governance
in the five environmental authority case studies, these were official institutional
documentation, such as indicator policy, planning, *iwi* liaison, and technical
reports and documents. Micro-abstractly on local cross-tribal *kaitiakitanga* in
the *Māori* river community case studies, these were publicly available
documentation, such as local library books, newspaper articles, and community
information documents. I provide further details in the reference section of the
thesis. Other local informational sources, such as diaries, letters and family
records are acknowledged in sub-section *3.4.11.* The *Aotearoa/*national
environmental governance documented data is listed by the non/applicability to
the documented data topics in the case studies of the study. My summary
charts are provided in *Tables 3.8a,b.*

Tables 3.8a,b   The *Aotearoa/*national environmental governance data of the study - summarised overview

Table 3.8a   The environmental authority case study documented data of the study - summarised overview

Type of document	Data topics				
	Symbol √ ✕				
	Meaning applicable non-applicable				
	MfE	EW	TDC	TCDC	ODC
• policy documents	√	√	√	√	√
• planning documents	✕	√	√	√	✕
• *iwi* liaison documents	✕	√	✕	✕	✕
• technical reports	√	√	✕	✕	✕

Table 3.8b   The *Māori* river community case study documented data of the study - summarised overview

Type of document	Data topics		
	Symbol √ ✕		
	Meaning applicable non-applicable		
	Waitahanui	*Oparau*	*Harataunga*
• library books	√	√	√
• newspaper articles	√	√	√
• community information documents	√	√	√

On the articulation side, as the search for synergistic balance was compared from the distinguishing point of the contemporary period (late-modernity) of revolutionary knowledge/value change (reflexive modernisation), I utilised my own *Māori* nuanced problem solving terms of reference meso and micro-abstractly to bring forth the medium and low abstracted subtleties of nuanced reality *(Chapters 4 - 7)*. Only a brief summarised overview is provided here, as further detailed in *Chapters 4 - 7.* My summary charts are provided in *Tables 3.9a,b.* Background information can also be accessed in *Appendices 3.5p-s.* In addition, I provide a detailed explanation of the theoretical concepts and acronyms mentioned below in *Glossaries Bi,ii,* and *Tables 4iia,b, 6iia,b*.

Explanatory caption of *Tables 3.9a,b*

Acronym	*Meaning*
IK	*te ao Māori/* indigenous knowledge
WSK	western scientific knowledge
WIO	global Westphalia international order
WKS	*Aotearoa* Westminster-Keynesian system

Table 3.9a   The meso *Māori* And/Also nuanced problem solving terms of reference of the study - summary chart

1. The meso And/Also context of world and national environmental governance/change	2. The meso And/Also concepts of world and national environmental governance/change	3. The meso And/Also critiques of world and national environmental governance/change
Global context: **-** Westphalia international order (WIO) indigenous knowledge (IK) and western scientific knowledge (WSK) paradigmatic shifts throughout the evolution of sustainability, the *Resource Management Act 1991,* environmental monitoring and environmental performance indicator development *National/Aotearoa context:* **-** Westminster-Keynesian system (WKS) indigenous knowledge (IK) and western scientific knowledge (WSK) paradigmatic shifts throughout the evolution of sustainability, the *Resource Management Act 1991,* environmental monitoring and environmental performance indicator development	*Global concepts:* - WIO hierarchy (WSK) - WIO official (WSK) and non-official (IK) discourse - WIO supremacy (WSK) - WIO verticality (WSK) and multiplicity (IK) - WIO re-matching (IK) - WIO vertical (WSK) governance *National/Aotearoa concepts:* - WKS hierarchy (WSK) - WKS official (WSK) and non-official (IK) discourse - WKS supremacy (WSK) - WKS verticality (WSK) and multiplicity (IK) - WKS re-matching (IK) - WKS vertical (WSK) governance	*Global critiques:* - WIO performance and performativity (WSK and IK) - WIO autopoesis (WSK and IK) - WIO vertical (WSK) model of sustainability - WIO multiple (IK) model of sustainability *National/Aotearoa critiques:* - WKS performance and performativity (WSK and IK) - WKS autopoesis (WSK and IK) - WKS vertical (WSK) model of sustainability - WKS multiple (IK) model of sustainability - WKS hierarchy and multiple connection model (WSK and IK)

Table 3.9b   The micro *Māori* And/Also nuanced problem solving terms of reference of the study - summary chart

1. The micro And/Also context of *Aotearoa*/ national environmental governance/change	2. The micro And/Also concepts of *Aotearoa*/ national environmental governance/change	3. The micro And/Also critiques of *Aotearoa*/ national environmental governance/change
Inter-governmental, hierarchical context **-** Westminster-Keynesian System (WKS) indigenous knowledge (IK) and western scientific knowledge (WSK) paradigmatic shifts throughout the evolution of environmental institutional governance	*Inter-governmental, hierarchical concepts* - institutional consolidation (WSK and IK) - collective institutional reflexivity (WSK and IK) - multi-reflexivity (WSK and IK)	*Inter-governmental, hierarchical critiques* - *Aotearoa* hierarchical reflexive modernisation (WSK and IK) - *Aotearoa* hierarchical organised irresponsibility (WSK and IK) - *Aotearoa* hierarchical relations of production and definition (WSK and IK)
Cross-tribal, local context: **-** Westminster-Keynesian System (WKS) indigenous knowledge (IK) and western scientific knowledge (WSK) paradigmatic shifts throughout the evolution of cross-tribal local river *kaitiakitanga*	*Cross-tribal, local concepts:* - socio-cultural consolidation (WSK and IK) - collective institutional reflexivity (WSK and IK) - multi-reflexivity (WSK and IK) - primary vertical and reversed vertical individualisation (WSK and IK) - *te ao Māori* stronghold (IK) - collective and specific diversity (IK) - accumulated detraditionalisation (IK)	*Cross-tribal, local critiques:* - *Aotearoa* local reflexive modernisation (WSK and IK) - *Aotearoa* local social explosiveness of hazard (WSK and IK) - *Aotearoa* local relations of production and definition (WSK and IK)

3.3.8   And/Also methodological design - specific review

More specifically, my And/Also methodological design relates to the correlation of synergy in the search for value balance, utilising the library research and discourse analysis methods and techniques as follows.

3.3.9   Review of the library research and discourse analysis methods and techniques

From the outset of the empirical research, I utilised a set of points guideline, termed 'the library research method set of points guideline' listing the relevant macro-level And/Also nuanced problem solving for formulating (termed 'side A') and articulating (termed 'side B') synergy throughout its location in the meso and micro knowledge/value trajectories *(Appendix 3.5j)*. This was collated (referring to the collation of side a) and tabulated (referring to the tabulation of side b) via the documented, oral and observable data collating and tabulating technique forms of the study *(Appendix 3.5ki,ii)*.

Forthwith, I utilised a set of points guideline, termed 'the discourse analysis method set of point's guideline', listing the relevant And/Also nuanced problem solving for detecting synergy along the underpinning meso and micro modernity value continuum *(Appendix 3.5l)*. For this research purpose, I drew on my macro-theory nuanced problem solving of the growth (termed 'side A') and conservation (termed 'side B') value exemplars for detecting synergy along the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum, termed the 'value continuum theory-categorisations of the study' *(Appendix 3.5l)*.

Drawing on my macro-level nuanced problem solving on the formulation and articulation of the search for synergistic value *(Appendices 3.5)*, synergy was correlated utilising the discourse analysis method set of points guideline alongside the scanning, assessment, coding and triangulation techniques *(Appendices 3.5mi,ii,iii,iv)*. Starting at the broadest analytical level in my use of discourse analysis, I scanned the documented, oral and observable data via the scanning technique of discourse analysis *(Appendices 3.5mia,b),* for an initial gauge on the underpinning epistemological leaning toward either the

growth or conservation value poles and between them. Utilising the 'documented, oral and observable data scanning form' listing the priorities for detecting synergy along the value continuum *(Appendices 3.5mia,b)*, I recorded the applicable/non-applicable nuanced problem solving of relevance under these categories of growth and/or conservation. My comparative analysis of the underpinning discourses of growth and conservation was then cross-referenced with the value continuum theory-categories, via the discourse analysis set of points guideline form *(Appendices 3.5na,b)*.

I also assessed the documented, oral and observable data via the assessment technique of discourse analysis *(Appendix 3.5mii),* for a preliminary estimation of the correlated findings of conservation (in relation to conservation over growth and conservation versus growth) and/or growth (in relation to growth over conservation and growth versus conservation). Utilising the 'assessment sections of the scanning technique form' *(Appendix 3.5mii)*, I recorded my preliminary assessment of growth and/or conservation in conjunction with the discourse analysis set of points guideline form *(Appendices 3.5na,b)*.

Going into a deeper analytical level of discourse analysis, I coded the documented, oral and observable data trajectories via the coding technique of discourse analysis *(Appendices 3.5miiia,b)*, for a greater estimation of the correlated findings of growth and/or conservation. Utilising the 'coding technique form' *(Appendices 3.5miiia,b)*, I recorded my coding of growth and/or conservation in conjunction with the discourse analysis set of point's guideline form *(Appendices 3.5na,b)*.

Concluding at the deepest analytical level of discourse analysis, I cross-referenced the documented, oral and observable data trajectories via the triangulation technique of discourse analysis *(Appendices 3.5miva,b),* for an even greater estimation of the correlated findings of growth and/or conservation. Utilising the 'triangulation technique form' *(Appendices 3.5miva,b),*, I recorded my cross-referencing of growth and/or conservation in conjunction with the discourse analysis set of points guideline forms *(Appendices 3.5na,b)*.

As reviewed in the above section *(3.3),* considerable original nuanced problem solving was required methodologically to move And/Also beyond Or. Finally, this is further detailed from the significant amount of effort required by the insider researcher to emancipate the nuanced reality of the empirical case studies at the practical flax roots up *(3.4).*

3.4 Emancipating the subtleties of the empirical case study research - the insider researcher's methodological employment of And/Also nuanced problem solving

The insider researcher's reflexive engagement of And/Also nuanced problem solving methodologically at the practical flax roots up was at the heart of elucidating nuanced reality in the empirical case study research, as conveyed in the twenty-two sub-sections of this section. Before laying out the grounded methodological employment of And/Also nuanced problem solving *(3.4.9 - 3.4.22),* I identify the late-modern empirical fieldwork context that was reflexively engaged *(3.4.1 - 3.4.8).*

3.4.1   Conducting the empirical fieldwork and participant observation

In the empirical fieldwork, oral and documented data were triangulated or cross-verified by observational data through the participant observation method and techniques. I start with an initial back grounding sub-section *(3.4.2)* on the contemporary context or field of observation that was reflexively engaged, termed the 'late-modern observation field'. Thereafter, the following sub-sections review the prior planning, termed 'fieldwork preparation' *(3.4.3 - 3.4.12),* visits, termed 'fieldwork proper' *(3.4.13 - 3.4.21),* and follow-up, termed 'fieldwork follow on' *(3.4.22),* stages of the empirical fieldwork, with particular regard to my design of the *Māori* methods.

3.4.2   Late-modern observational field

To embrace an observational field of *Māori* reflexivity and reflexive modernisation of the late-modern era, one needed to engage reflexivity at the human interactive level of the reflexive re-construction of identity (detraditionalisation) or the 'reflexive self', as articulated by reference to the techniques of experiential reflexivity and fluidity. I only provide a brief introduction here. A more detailed account follows *(3.4.3 - 3.4.9).*

In participant observation, the experiential reflexivity technique relates to the contemporary experience of late-modern reflexivity (detraditionalisation); that is, the pros or cohesiveness of cultural survival and the cons or dysfunction of cultural loss of the reflexive self in one's life apprenticeship of survival and growth. As insider researcher, it entailed the engagement of one's own reflexive or adaptive strategies and those of the research participants in the empirical research experience for survival and growth purposes of the late-modern reflexive self.

In participant observation, the fluidity technique relates to the contemporary fluidity of detraditionalisation; that is, the use and non/use of *Māori tikanga* and/or *Pākehā* culture, science and technology for survival and growth. As kinship affiliated researcher, it entailed the reflexive negotiation of detraditionalisation in experiential reflexivity.

By embracing the reflexive self through these techniques, it brought in one's engagement of an observational field of *Māori* reflexivity and reflexive modernisation of the late-modern era. This spread across both the environmental authority and *Māori* river community case study settings of the empirical fieldwork. Hence, the observational field of such reflexivity was inter-governmental, inter-tribal, cross-compartmental,[92] cross-cultural, comparative, evolutionary, inter-disciplinary and multi-dimensional. Therefore, the experiential reflexivity and fluidity techniques of participant observation were employed inter-tribally, inter-governmentally, cross-compartmentally, cross-culturally, evolutionarily, inter-disciplinarily, multi-dimensionally and comparatively in order to reflexively engage the subtleties of the empirical fieldwork, as I further deliberate in the remainder of the upcoming review *(3.4.3 - 3.4.22).*

3.4.3   *Engaging the reflexive self and detraditionalisation*

My engagement of the reflexive self and detraditionalisation spanned over an observational fieldwork time frame of participant observation from the time of the spiritual vision (1999) during field work preparation (up to April 2003),

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[92] The term 'cross-compartmental' refers to the observational field of late-modern reflexivity between the locales of the *Māori* river community and environmental authority case studies.

into fieldwork proper (May - July, 2003) and onto fieldwork follow on (August 2003 onwards).

The fieldwork preparation stage contained robust and rigorous prior planning, involving both the adherence of *Māori tikanga,* custom and the undertaking of preliminary scoping and administrative work *(3.4.4 - 3.4.9).* The fieldwork proper stage entailed the co-ordinated and scheduled execution of fieldwork visits for the collection of micro documented, oral and observable data, alongside the ongoing practice of *Māori tikanga (3.4.10 - 3.4.21).* Lastly, the fieldwork follow on stage consisted of the continued adherence of *Māori tikanga* and the undertaking of follow up administrative work *(3.4.22).*

As particular effort was required to engage the *Māori* reflexive self and detraditionalisation with the constant practice of *Māori tikanga,* I commence with the building in of my engagement of such reflexivity at fieldwork preparation forwards.

3.4.4   The fieldwork preparation stage - building in my own engagement of the late-modern *Māori* reflexive self

Detraditionalisation needed to be built in through my own engagement of the *Māori* reflexive self in relation to apprenticeshiping, *whānau, wairua, whakapapa,* fluidity, *whānaungātanga* and *utu utu,* as follows.

3.4.5   Apprenticeshiping

As I previously argued in relation to my own *Māori* upbringing, learning and growth comes with working through life's joys and strifes. On one side, detraditionalisation entailed the pros of life - termed one's 'cohesive' *Māori* adaptive strategies. In comparison, detraditionalisation involved the cons of life - termed one's 'dysfunctional' *Māori* adaptive strategies. Both the positive and negative sides of the detraditionalisation of *Māori* reflexive or adaptive strategies in apprenticeshiping were engaged in one's engagement of the *Māori* reflexive self.

Apprenticeshiping was pro-actively used by incorporating multiple apprenticeships, as depicted in the apprenticeshiping dimension of the *'whānau* model' of the study. A detailed account is provided in *Appendices 3.4a,b.*

I drew on the apprenticeships of *Māori* and non-*Māori* mentors through my own life apprenticeship, which brought a two-fold engagement with detraditionalisation. The use of my own life apprenticeship pertained to one's own adaptive strategies of detraditionalisation, as illustrated in *Part B* of apprenticeshiping in the study. I provide a detailed illustration in *Appendix 3.4b.*

The wider use of *whānau*-affiliated apprenticeships related to multiple adaptive strategies of detraditionalisation, as articulated in *Part A* of apprenticeshiping in the study *(Appendix 3.4a)*. I provide a detailed illustration in *Appendix 3.4a.*

Indeed, the inclusion of multiple apprenticeships diversified my use of apprenticeshiping, as I later expand in sub-sections *3.4.11* and *3.4.21*.

3.4.6   The wairua, whakapapa and whānau models of the study

Additionally*,* my own *Māori* adaptive strategies of *wairua, whakapapa* and *whānau* built one's connection to the *Māori* reflexive self and detraditionalisation, as exemplified in the *wairua, whakapapa* and *whānau* models. I provide detailed illustrations in *Appendices 3.3a,b (wairua* model of the study), *Appendices 3.2a,b,c (whakapapa* model of the study) and *Appendices 3.4a,b (whānau* model of the study).

Most relevantly, *wairua, whakapapa* and *whānau* encompassed the essential inter-connections of the detraditionalisation of *ngā tikanga tūpato* in the *Māori* people-environment relationship. *Wairua* infuses an all-embracing connection to the spiritual dimension. This was articulated by reference to a six-tiered *wairua* matrix, from spiritual level one or a high point of *Māori* spirituality - referring to *Io,* the *Māori* supreme god - in descending spiritual inter-connections - referring to spiritual levels two to five - through to *ngā wairua kaitiaki ō ngā awa,* my river spiritual guardians at spiritual level six or the lowest spiritual level. A schematic depiction can be found in *Appendix 3.3a.*

Also, *whakapapa* and *whānau* permitted crucial connections to the living and non-living worlds. This was articulated by reference to my own inter-tribal genealogical and family linkages between nature, humanity and the spiritual

worlds. I provide detailed illustrations in *Appendices 3.2a,b,c* (inter-tribal genealogical connections) and *Appendices 3.4a,b* (family-linked connections). Taken together, these multiple connections of *wairua, whakapapa* and *whānau* were built in at an all-encompassing capacity to the *Māori* reflexive self and detraditionalisation.

Having introduced my own reflexivity as kinship-affiliated *Māori* researcher, I briefly identify my methodological applications of detraditionalisation in fluidity and *whakawhanāungātanga (3.4.7),* before elaborating on the particulars of fieldwork preparation *(3.4.7 - 3.4.9).*

3.4.7   Fluidity

In my own contemporary fluidity between the reflexive negotiation of the use and non-use of *Māori tikanga* and western science in detraditionalisation, the apprenticeshiping, *wairua, whakapapa* and *whānau* models were used as cultural templates rather than one's duplication of tradition. For my research purposes, I both utilised and disregarded them, as the situation warranted. By continually shifting between the use and non-use of *tikanga* and western science in detraditionalisation, one effectively negotiated between the comparative, cross-compartmental, cross-cultural, cross-tribal, evolutionary, inter-disciplinary, inter-governmental and multi-dimensional terrain of the *Māori* river community and environmental authority case study fieldwork. For example, in the cross-tribal use of detraditionalisation, I abandoned my *Harataunga* affiliated traditions, when dealing with the *Oparau* River case study. Conversely, they came to the fore when I dealt the *Harataunga* River case study.

3.4.8   Whakawhānaungātanga

Fundamentally, it was from the outset of fieldwork preparation that the multiple inter-connections of the detraditionalisation of *whānau* (apprenticeshiping, experiential reflexivity, fluidity, *wairua* and *whakapapa*) or *whakawhānaungātanga,* were gradually built in. Bishop's (1996) conception of 'spiral discourse' usefully conceptualises the integration of such reflexivity,

whereby *whakawhānaungātanga* refers to a cyclical, inter-connecting process that continuously builds and overlaps.

Similarly, in my use of *whakawhānaungātanga*, multiple connections of detraditionalisation became overlapped in a continuous stream of inter-connection, through the purposeful use of *Māori tikanga* and western science in fieldwork preparation. These reflexive processes were not random and haphazard. Rather, they sequentially unfolded in a co-ordinated and intentional manner.

In my methodological application of *whakawhanāungātanga,* I relay a sequential process of reflexivity at three levels, that being,

- Level 1/ 'Prior *whakawhānaungātanga,* referring to the initial building in of the multiple inter-connections of detraditionalisation;
- Level 2/ 'Immediate *whakawhānaungātanga',* referring to the immediate building in of the multiple inter-connections of detraditionalisation; and
- Level 3/ 'Consolidated *whakawhānaungātanga'* - referring to the consolidated building in of the multiple interconnections of detraditionalisation.

Thus, the particulars of my execution of *Māori tikanga* in fieldwork preparation are briefly reviewed at these three levels of *whakawhānaungātanga* after I introduce the practice of *Māori* spirituality which underpinned them.

3.4.9 *Māori spirituality and executing Māori tikanga in fieldwork preparation*

In fieldwork preparation, the multiple interconnections of detraditionalisation were centrally built in by an all-encompassing practice of *Māori* spirituality. Through the reciting of sacred ritual, I focused on drawing from the spiritual guidance and support of *ngā wairua kaitiaki o ngā awa,* the river spiritual guardians of the study *(Appendices 3.3bi,ii,iii).* This can be conceived by reference to a *Māori* spiritual hierarchy from which my spiritual practices were drawn. At the top, is the sacred spirituality of my *Ngāti Hikairo* kinship affiliation *(Appendices 3.2bi,ii,iii,iv).* It relates to the *Oparau* River case study

spiritual guardians *(Appendix 3.3bii),* as drawn through the spiritual practices of foresight,[93] *karakia,* prayer, and dream analysis.[94] The collective spirituality of my *tipuna,* spiritual guardians, is at the second level, as drawn through the spiritual practices of *urupā* visits,[95] visual aids[96] and prayer. Lastly, the individual spirituality of my *pāpā* spiritual guardian is at the bottom level, as drawn through the spiritual practices of insight,[97] spiritual signs[98] and dreams.

To review, it was under the protective mantel of my *Māori* spirituality that these practices of *Māori tikanga* were executed with the following purposes related to each level of the building in of *whakawhanāungātanga:*

i.   Purposes of my practice of *Māori tikanga* in prior *whakawhanāungātanga:*
  -   to open the prior *whakawhanāungātanga* level of fieldwork preparation;
  -   to obtain permission to access and research *te ao Māori, te ao turoa* and *te ao Pākehā* in the search for synergistic balance at the prior *whakawhanāungātanga* level of fieldwork preparation;
  -   to obtain the spiritual sanctioning, support, guidance and protection for one to proceed forth at the prior *whakawhanāungātanga* level of fieldwork preparation; and
  -   to obtain the permission and support of immediate *whānau* to proceed forth at the prior *whakawhanāungātanga* level of fieldwork preparation.

ii. Purposes of my practice of *Māori tikanga* in immediate *whakawhanāungātanga:*
  -   to open the immediate *whakawhanāungātanga* level of fieldwork preparation;

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[93] In my viewpoint of *Māori* spirituality, foresight refers to the ability to foretell the future.

[94] In my viewpoint of *Māori* spirituality, dream analysis pertains to the ability to forecast present and future events from an analysis of dreams.

[95] In my viewpoint of *Māori* spirituality, visiting the burial sites of *ngā wairua kaitiaki ō ngā awa* is a spiritual ritual that symbolises respect and recognition of *te taha wairua.* This was undertaken at the start and finish of each *Māori* community case study visit during the fieldwork proper stage.

[96] My use of visual aids here refers to the use of photos of my *tipuna* for the purposes of this research.

[97] In my viewpoint of *Māori* spirituality, insight refers to the ability to perceive spiritual phenomena.

[98] In my viewpoint of *Māori* spirituality, spiritual signs pertain to the ability to observe spiritual phenomena.

- to obtain permission to access and research *te ao Māori, te ao turoa* and *te ao Pākehā* in the search for synergistic balance at the immediate *whakawhanāungātanga* level of fieldwork preparation;

- to obtain the spiritual sanctioning, support, guidance and protection to proceed forth at the immediate *whakawhanāungātanga* level of fieldwork preparation;

- to obtain the permission and support of extended *whānau* at the immediate *whakawhanāungātanga* level of fieldwork preparation; and

- to obtain permission and support to undertake preliminary scoping and administrative work at the immediate *whakawhanāungātanga* level of fieldwork preparation.

iii. Purposes of my practice of *Māori tikanga* in consolidated *whakawhanāungātanga:*

- to open the consolidated *whakawhanāungātanga* level of fieldwork preparation;

- to obtain permission to access and research *te ao Māori, te ao turoa* and *te ao Pākehā* in the search for synergistic balance at the consolidated *whakawhanāungātanga* level of fieldwork preparation;

- to obtain the spiritual sanctioning, support, guidance and protection for to proceed forth at the consolidated *whakawhanāungātanga* level of fieldwork preparation; and

- to obtain permission and support to undertake preliminary scoping and administrative work at the consolidated *whakawhanāungātanga* level of fieldwork preparation.

I elaborate on the multiple inter-connections of detraditionalisation that were built in through these practices of *Māori tikanga* in *Appendices 3.2a,b,c* (with respect to *whakapapa,* fluidity and experiential reflexivity), *3.3a,b* (with respect to *wairua,* fluidity and experiential reflexivity), and *3.4a,b* (with respect to *whānau* and apprenticeshiping).

A further extrapolation is forthcoming regarding my engagement of the pros and cons of the detraditionalisation of *whānau* at immediate *whakawhanāungātanga (3.4.11)* and *utuutu* at consolidated *whakawhanāungātanga (3.4.12).* Beforehand, sub-section *3.4.10* briefly

expands on the preliminary scoping and administrative work of fieldwork preparation.

3.4.10 Review of the preliminary scoping and administrative work of fieldwork preparation

A thorough prior planning regime was undertaken in fieldwork proper alongside the practice of *Māori tikanga*. The preliminary scoping work dealt with consultation, establishing access and approval, networking, relationship building and informal information gathering in both the *Māori* river community and environmental authority case studies. My administrative work dealt with the preparation fieldwork documentation of these preliminary scoping activities. A detailed account is provided in *Appendices 3.5a,b,c,d,e,f,g,h,i.*

3.4.11 The pros (cohesion) and cons (dysfunction) of detraditionalisation in immediate whakawhānaungātanga

In my capacity as kinship affiliated researcher, it was in the immediate *whakawhānaungātanga* time period from February 1 - March 31, 2003 that I encountered both the pros (cohesion) and cons (dysfunction) of detraditionalisation. This is briefly introduced here in relation to my kinship affiliated relationship with the *Māori* community case studies. The pros and cons of detraditionalisation are further covered in sub-sections *3.4.12*, *3.4.14*, *3.4.19* and *3.4.20* of the section.

Both the pros and cons of detraditionalisation were engaged from my embracement of the *Māori* reflexive self in the late-modern locale of immediate *whakawhanāungātanga.* On the pro side of detraditionalisation, I engaged the cohesiveness of one's own life apprenticeship in the *Waitahanui* (as articulated by reference to 'close-knit residential experience'),[99] *Oparau* (as articulated by reference to 'close-knit holiday visits')[100] and *Harataunga* (as articulated by

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[99] On the positive side of the *Waitahanui* community case study, the use of 'close-knit residential experience' here refers to experiential reflexivity that is cohesive in my capacity as home owner and local community member (1999 onwards). This includes my community work positions as *kōhanga* helper and administrator (1999 - 2001); and secretary of the local *marae* (1999 onwards).

[100] On the positive side of the *Oparau* community case study, the use of 'close-knit holiday visits' here pertains to experiential reflexivity that is cohesive from childhood and early-middle adulthood holiday visits to stay at *Kāwhia* with my *kuia* whom passed away in 1999.

reference to a 'close-knit community visit')[101] community case studies. On the con side of detraditionalisation, I engaged the dysfunction of one's own life apprenticeship in the *Waitahanui* (as articulated by reference to 'compromised safety'),[102] *Oparau* (as articulated by reference to 'immediate family breakdown')[103] and *Harataunga* (as articulated by reference to 'extended family breakdown').[104]

From my own life apprenticeship of the late modern *Māori* reflexive self, the following reflexive or adaptive strategies were employed for survival and growth. In the *Waitahanui* river community case study, I adopted the cohesive strategy of independence, termed the 'independent approach', drawing on the spiritual support and endorsement of my Dad, termed my *'papa wairua kaitiaki'*. In the *Oparau* river community case study, I adopted the cohesive strategy of mentorship, termed the 'mentorship approach', drawing on the support and endorsement of my younger brother, termed my *'teina kaitiaki'*. In the *Harataunga* river community case study, I adopted the cohesive strategy of peace-making, drawing on the spiritual support and endorsement of my Mother, termed my *'mama* living *kaitiaki'* and close spiritual *tipuna,* termed my *'tipuna wairua kaitiaki'*. My summary chart is provided in *Table 3.10.*

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[101] On the positive side of the *Harataunga* community case study, the use of 'close-knit family visit' here pertains to experiential reflexivity that is cohesive from my first *whānau hui* visit (2000).

[102] On the negative side of the *Waitahanui* community case study, the use of 'compromised safety' here relates to experiential reflexivity that is dysfunctional in my capacity as single *Māori* mother of three boys. This includes experiencing numerous acts of vandalism, theft and burglary, child bullying, home invasion, physical assault and emotional violence.

[103] On the negative side of the *Oparau* community case study, dysfunctional experiential reflexivity refers to an immediate family breakdown since the passing of my *kuia*.

[104] On the negative side of the *Harataunga* community case study, dysfunctional experiential reflexivity refers to an extended family breakdown characterised by community division.

**Table 3.10   Immediate *whakawhānaungātanga* and *Māori* reflexivity:
conceptual framework**

Waitahanui affiliation	*Oparau* affiliation	*Harataunga* affiliation
core adaptive strategy		
independent approach	mentored approach	peace-maker approach
cohesive attributes		
- residential experience - *papa wairua kaitiaki* - multiple living *kaitiaki*	- holiday visits - sacred *wairua kaitiaki* - *teina* living *kaitiaki*	- one community visit - *tipuna wairua kaitiaki* - *mama* living *kaitiaki*
dysfunctional attributes		
- compromised safety	- immediate *whānau* breakdown	- extended *whānau* breakdown

3.4.12   Consolidated whakawhānaungātanga

Simultaneously, I embraced the overarching processes of cohesion and dysfunction - referring to the *whakawhānaungātanga* level of 'consolidated *whakawhānaungātanga'*.   Instead, it pertains to the all-embracing multiple inter-connections of detraditionalisation, as compared to the specifics of *Māori* reflexivity. These reflexive processes are simultaneous and represent the totality of transitory change. Hence, the generic consolidates the specific, as coined through my use of the term 'consolidated' here.

In consolidated *whakawhānaungātanga,* I adopted the adaptive strategy of *utu utu,* reciprocation, which means to give due acknowledgment and compensation. My reciprocation practices fall into the ideational, material and practical, as further detailed in the ethical consent form of the study *(Appendix 3.5a).* Ideational reciprocation relates to one's contribution to *Māori* epistemology.[105] Material reciprocation practices pertain to the offering of gifts such as money, food, travel vouchers and souvenirs.[106] Lastly, practical reciprocation refers to the expression of time, interest, attention, help and support.[107]

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[105] The ideological reciprocation practices of the study refer to my own efforts to advance *Māori* through the empowerment of the *te ao Māori* paradigm. For further details see *Appendix 3.5a.*

[106] The material reciprocation practices of the study include, home-baked items such as cakes, biscuits and bread, baskets of food, money, petrol vouchers, environmental books and *Māori* calendars. For further details see *Appendix 3.5a.*

[107] The practical reciprocation practices of the study refer to my own efforts to help, assist and show kindness to the research participants. For example, in return for information provided in key informant diaries, I compiled a diary report for the use of *whānau* members. For further details see *Appendix 3.5a.*

My *Māori* cultural terms of reference for *utu utu,* centrally relates to the reciprocation practices of *kanohi ki te kanohi* (showing face), *manaaki* (caring) and *mana* (prestige). First, *kanohi ki te kanohi* refers to the importance of one's appearance and participation, as a means of expressing reciprocation. 'Showing face' shows acknowledgement and recognition. Thereby, my own expression of *kanohi ki te kanohi* sets the precedence for the practice of *utu utu* in the study.

Second, *manaaki* refers to the expression of reciprocation through showing interest, attention and a caring attitude. To give sincerity to *manaaki,* it could not be short lived. Rather, I was concerned with providing a lot of time as a key expression of *manaaki.*

Lastly, *mana* refers to the importance of quality, credibility and integrity as a means of expressing reciprocation. The vital contribution of *mana* is that it injects prestige into the act of giving. For example, the material gifts of home-baking were intended to show a time-spent activity of concerted thought, contemplation and effort. Thus, it served to symbolise a prestigious gift of *mana.*

Also, my application of *utu utu* extends to the all-embracing spatio-temporal dimension of the past, present and future. This stems from the initial river spiritual vision, which inter-connects my spiritual obligation for reciprocation to the evolution of the *Māori* people-environment relationship over time. Therefore, in evolutionary terms of *Māori* reflexivity, *utu utu* is conceived as forever lasting. For example, this means that I will always be indebted to the *Māori* river community and environmental authority case study communities of the study *(Appendix 3.5a).*

By giving or reciprocating, I aim to re-balance my engagement of *Māori* reflexivity, which is based on the reversed action of taking. When engaging the *Māori* river community and environmental authority case studies, I endeavour to 'take' research data on the detraditionalisation of *ngā tikanga tūpato* and western science. At the same time, I also 'take' up my people's time, energy and personal resources. In my *Māori* viewpoint, these are valuable gifts that need to be reciprocated through the opposite act of giving.

In consolidated *whakawhānaungātanga,* it is the reflexive practice of give and take, which embraces the all-over processes of cohesion and dysfunction. On one side, reciprocation pertains to cohesion - referring to the pro or positive side of *utu utu.* In positive *utu utu,* giving and taking are cohesive, whereby each one seeks to balance the other. In comparison, reciprocation pertains to dysfunction - referring to the con or negative side of *utu utu.* In negative *utu utu,* giving and taking are dysfunctional, whereby each one seeks to unbalance the other.

Thus, I engaged both the detraditionalisation of cohesion and dysfunction in my reflexive practice of *utu utu.* Such *Māori* reflexivity cross-cuts either the use of *Māori tikanga* in terms of cohesion - referring to cultural survival, or disregard of *Māori tikanga* in terms of dysfunction - referring to cultural loss.

Briefly, positive *utu utu* includes either the cohesive use or disregard of *Māori tikanga.* For example, cohesion occurs with both the use[108] and abandonment[109] of *mana*. This is later theorised in terms of the pros of experiential reflexivity, with reference to cultural survival *(Chapter 7).*

In short, negative *utu utu* includes either the dysfunctional use or disregard of *Māori tikanga.* For example, dysfunction occurred with both the use[110] and abandonment[111] of *manaaki*. This is later theorised in terms of the cons of experiential reflexivity, with reference to cultural loss *(Chapter 7).*

Altogether, my reflexive practice of *utu utu* is comparatively analysed in relation to both the *Maori* adaptive strategies of cultural survival and loss. Most relevantly, I argue that this allowed the adaptive capacity of *Māori* reflexivity to be realised, as illustrated in *Chapter 7.*

Nevertheless, much *Kaupapa Māori* And/Or thought appropriates negative *utu utu* or the hegemonic disregard of *Māori tikanga* compared to the dominant use

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[108] My reference to the cohesive use of *mana* here includes the gifts of home-baking in the study.

[109] My reference to the cohesive abandonment of *mana* refers to its non-use during the co-optation of *manaaki* and *kanohi ki te kanohi*.

[110] My reference to the dysfunctional use of *manaaki* refers to misuse of kindness and sincerity.

[111] My reference to the dysfunctional abandonment of *manaaki* refers to negative responses including expressions of anger, violence, mistrust, isolation and compromised safety.

of western science, termed 'take over give', to give voice to positive *utu utu* or the counter-hegemonic use of *Māori tikanga* and sub-ordinate use of western science, termed 'give over take', with only a partial representation of such *Māori* reflexivity (Cunningham, 1998; and *Pihama* et al., 2002). This oppositional viewpoint pits negative *utu utu* in opposition to positive *utu utu* (Bishop, 1999; 2005; and Smith, 1999), as further detailed in *Appendix 3.1.* Consequently, it forestalls a greater awareness of both the positive and negative uses and non-uses of *Māori tikanga* and western science in transitory processes between them. Indeed, negative *utu utu* cross cuts positive *utu utu,* and the reverse. Therefore, I argue that movement forward is greatly hampered by a marginal representation of *Māori* reflexivity in terms of such cultural survival and loss. This is later examined in relation to the potential implications on the further advancement of *Māori* development.

Overall, the reflexive practice of *utu utu* engaged both the cohesive and dysfunctional processes of reflexive change; that being, at the consolidated *whakawhānaungātanga* level of fieldwork preparation.

To summarise, the above sub-sections briefly reviewed the fieldwork preparation stage of the empirical case study research. It focused on my engagement of the *Māori* reflexive self in the practice of *Māori tikanga* and western science from the late-modern observational field of the participant observation method and techniques.

3.4.13   *The fieldwork proper and follow-on stages - introduction*

In the remaining sub-sections of the section *(3.4.14 - 3.4.22)*, the fieldwork proper and follow-on stages of the empirical research are briefly reviewed, starting with my practice of *Māori tikanga (3.4.14).* In sub-sections *3.4.15 - 3.4.21,* I review the fieldwork proper visits, documentation, and use of fluidity. Thereof, sub-section *3.4.22* reviews the fieldwork follow on stage of the empirical research.

3.4.14   The all-embracing practice of Māori tikanga

As carried over into fieldwork proper and follow on, the reflexive practice of *Māori tikanga* encompassed the totality of the empirical research. Again, *Māori* spiritual ritual were performed with the same purposes of obtaining access and protection, for sanctioning and endorsement, and to obtain permission and approval to proceed forth into the *Māori* river community and environmental authority fieldwork domains.

In particular, certain *Māori tikanga* were especially relevant. I performed spiritual ritual associated to the rivers and environmental authorities at the beginning and end of each stage (fieldwork proper and follow on) to open[112] and close these stages. Protective *karakia* were undertaken before and after each interview and on important occasions (such as *marae* and community *hui)*. I also frequented the significant sites of *Māori* spirituality, such as the *urupa*, cemeteries of *ngā wairua kaitiaki o ngā awa*. Background information can be found in *Appendix 3.3a,b.*

3.4.15   Review of the fieldwork proper visits and documentation - introduction

In this study, the micro documented, oral and observable data were collected throughout fieldwork proper in a co-ordinated and scheduled series of 1-2 day and 1-2 week visits to the environmental authority and *Māori* river community case study locales (May - July, 2003), termed the 'fieldwork proper visits'.

With both the varying distances between *Māori* river community and environmental authority locales and my own practical concerns, it served better to stagger the fieldwork proper visits. As I travelled regularly to *Waitahanui,* the *Waitahanui* River, Ministry for the Environment, and *Taupō* District Council case study interviews were drawn out over thirty fieldwork visits (that is, 28 one to two day visits, a one week visit, and a two week visit). Considering the proximity between *Oparau* and Hamilton, I staggered the

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[112] River spiritual practice marked the 'start' of the *Māori* community fieldwork proper stage. I recited sacred prayer, alongside the sprinkling of river water. A river stone from each river was also put at the entranceway of my Hamilton home. The key purpose of these spiritual practices were to bring forth the spiritual essence of *ngā wairua kaitiaki ō ngā awa* in order to attain spiritual approval, guidance and support *(Appendices 3.3a,b).*

Oparau River case study, Environment *Waikato* and *Otorohanga* District Council interviews within fifteen fieldwork visits (that is, 14 one to two day visits and a one to two week visit). Since *Harataunga* was farther than the others, I condensed the *Harataunga* River and Thames-Coromandel District Council case study interviews into seven fieldwork visits (4 one to two day visits and 3 one to two week visits).

Thereby, the three key steps, termed 'Preliminaries', 'Setting up' and 'Execution', which I undertook in fieldwork proper are now reviewed *(3.4.16 - 3.4.18)*. I then review my use of fluidity within these steps *(3.4.18 - 3.4.21)*.

3.4.16 Preliminaries

In the preliminaries step, the preparatory administration work of fieldwork proper was undertaken. These tasks included research advertising, interview scheduling, fieldwork accommodation logistics, fieldwork documentation, and fieldwork correspondence. A detailed account of the preliminaries step research documentation can be accessed in *Appendices 3.5a,b,c,d,e,f,g,h,i*.

3.4.17 Setting up

The setting up step dealt with preliminary data gathering (such as the household survey and my initial observations of the case study fieldwork context) and preparatory matters of the research interviews (such as the initial introductions, relationship building, networking, and information provision). Background information on the setting up research documentation is provided in *Appendices 3.5a,b,c,d,e,f,g,h,i*.

3.4.18 Execution

In the execution step, the micro documented, oral and observable data gathering was undertaken. My execution research documentation consisted of the fieldwork diary, timetable, observational sheet, research interview information, consent and participant information forms. A detailed account is provided in *Appendices 3.5a,b,c,d,e,f,g,h,i*.

3.4.19 The fieldwork proper use of fluidity - introduction

More particularly, fieldwork proper was executed through my use of fluidity. The co-optation of one identity over the other *(Prelude),* was important for shifting between the case study domains, methods, and research participant interviews as warranted. I continually shifted and moved in accommodation to the changing circumstances of the fieldwork terrain, including my negotiation of cohesion and dysfunction. Next, this is reviewed in brief, beginning at the preliminaries step of fieldwork proper *(3.4.20)* forwards *(3.4.21-22).*

3.4.20 Fluidity and the preliminaries step

In the preliminaries step, I soon realised the importance of reflexively working in the interview appointment timings. On one side, my social scientist identity was co-opted when scheduling the pre-booked interview appointment times. This suited the greater majority of *Māori* and environmental authority research participants who preferred pre-booked interview times by phone, post or email contact *(Appendices 3.5hi,ii,iii,iv).* Of course, these only pertained to the reachable research participants, as many *Māori* research participants could only be contacted on the ground. Additionally, the pre-booked interview dates/times often had to be changed to accommodate unforeseen events such as *tangi* and *hui.* Therefore, the interview appointment timings were not fixed, and in many cases required much follow up and negotiation.

In comparison, my kinship affiliated identity was co-opted when operating within a more casual or unscheduled interview time-frame. This worked well for *whānau* preferring a more impromptu approach to interview appointment times. In the operation of non-booked interview timings, the *wairua* model of the study was at the forefront of my re-construction of *Māori* identity. The impromptu interview appointment times were not taken casually or in a laid back way. Rather, I constantly sought the guidance of *ngā wairua kaitiaki ō ngā awa,* when making the impromptu interview times. *Karakia* was continually recited. I drew on spiritual visions regarding the pre-ordained course of my journey. I also looked for spiritual signs to indicate either the pros or cons of casual appointment times for particular *whānau* members. From my *Māori* viewpoint, such *Māori* spiritual practice greatly assisted the propensity

for achieving successful un-scheduled interview timings. For example, my *whānau* would often say 'you have just arrived at the right time' or 'you have got the timing right again girl'.

However, my *Māori* spirituality was not used as an absolute guarantee for success, but rather it was employed as a spiritual protective cover for dealing with the pros (cohesion) and cons (dysfunction) of cultural survival and loss. In this fluidity, I drew on my adaptive strategy approaches to negotiate the detraditionalisation of cohesion and dysfunction. In the peace-making approach, I brought forth the supportive role of my *māmā* living *kaitiaki*. For example, Mum accompanied me on my first fieldwork proper visit to the *Harataunga* community case study. Together, we faced the unsettled *whānau* dynamics, in addition to a general uncertainty of the fieldwork terrain. In the mentored approach, I drew close to my *teina* living *kaitiaki*. Helpfully, my younger brother lived quite close to the *Oparau* River, as well as having strong community networks. In terms of our sibling relationship, he was a valuable support in negotiating our immediate *whānau* breakdown. Also, in the independent adaptive strategy, I leaned toward my senior aunt; that being, a key mentor in my multiple living *kaitiaki* of the *Waitahanui* River community case study. Being one of the oldest remaining home people, I felt very fortunate to have her support and guidance. This helped me feel safe and secure.

In the setting up and execution steps, I shifted between the use and non-use of the *Māori* (adaptive strategy approaches, apprenticeshiping, experiential reflexivity, *wairua, whakapapa* and *whānau*) and non-*Māori* (household survey, library research, participant observation and research interviews) methods and techniques, in my initial dealings with the detraditionalisation of cohesion and dysfunction. The critical feature being that these were conducted from both a personal and inter-personal intensity within the fieldwork terrain. Consequently, I moved between my survival and growth strategies of fluidity in the use/non-use of the *Māori*/non-*Māori* methods. Further details follow.

3.4.21 Fluidity; and the setting up and execution step

On one side, the setting up and executive steps were quite straight forward. In the environmental authority case study fieldwork, I moved from initial introductions (whereby preliminary contact was re-established and the information sheet/consents forms were re-introduced) to the undertaking of the research interviews (whereby the consent/participant information form was signed/filled and the interviews were undertaken). A flexible and accommodating approach was adopted. For those that indicated a preference for structure and formality, I operated accordingly in a formalised interview style. By contrast, a less structured and informal approach was provided for research participants that worked well with informality. The practicalities were accommodated as required. For example, many of the environmental authority research participants had very little time and were pressed at work, so I condensed and/or staggered the interviews or suggested a telephone interview. The follow up interviews also helped to more closely examine key aspects of the interview and for clarification. To maintain momentum, professionalism and for reciprocal purposes, a series of follow up measures were applied, including interview summary and thank you emails, cards, phone calls and letters *(Appendices 3.5hi,ii,iii,iv)*.

On the other side, I found the setting up and execution steps quite challenging, sophisticated and complex. In the *Māori* community case study fieldwork, I was initially introduced into a late-modern observational field of the pros (such as friendliness, familiarity and beauty) and cons (hostility, unfamiliarity and danger) of *Māori* adaptation to change. For example, both of these sides were encountered in my employment of the household surveys. Thankfully, I mostly experienced the pros. However, there were many dysfunctional incidences, including the encountering of drug taking, violence and vandalism. As kinship-affiliated researcher, these were engaged by the growth and survival strategies of the movement between escape, acceptance, withdrawal, submission, dismissal, field note taking, photographs and avoidance. The future implications of such late-modern *Māori* reflexivity on current *Māori* and non-*Māori* methods of *Aotearoa* scholarship are considered in *Chapter 8.*

When conducting the research interviews, I moved with the cultural and practical requirements of the *Māori* and non-*Māori* research participants. A relatively straight forward and un-complicated interview style suited most of the non-*Māori* research participants. Overall, I used the same interview approach of the environmental authority case study fieldwork previously mentioned.

In comparison, I shifted to accommodate the wider cultural and social expectations and needs of the *Māori* research participants. The majority of the *Māori* research interviews were lengthy (over three hours). Many interviews carried on over a series of days. Certain ones lasted a few weeks and in some cases over a few months. Many of the interviews included lunch and dinner. In reciprocation, I held interviews at my own home, and provided a meal.

A diverse range of documented, oral and observable data was obtained. I was taken on guided trips of the river, including *hīkoi*.[113] A variety of interview types were undertaken, including *marae* meetings, local community interviews and *hapu* level *hui*. Accordingly, as the situation warranted, I performed a short *mihi* and *waiata*. For further details of the *waiata* of the study see *Appendix 3.5f*. I also obtained a mixture of informational resources, such as diaries,[114] letters,[115] photographs,[116] family records and notes[117] and personal written information.[118]

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[113] In this study, *hīkoi* refers to a guided trip of the river ecosystems led by *kaumātua,* male and/or *kuia,* female elders. I was very fortunate to be taken on *hīkoi* in all of the *Māori* community case studies.

[114] A key informant of the *Harataunga* case study permitted my analysis of his father's (a *kaumātua, Māori* elder of the area) diaries. Although the specific details of these documents are not included in the thesis, they were utilised in my comparative analysis of the *Harataunga* community case study. For further details see *Chapter 7*.

[115] Some of the *Harataunga* and *Oparau* key informants sent letters about their lives as *kaitiaki*. Again, the specific details of these documents are not included in the thesis. Rather, they were utilised in my comparative analysis of the *Harataunga* and *Oparau* community case studies.

[116] Most of the key informants showed me photographs of their *kaitiaki* activities. As requested, none of these photographs are included in the thesis.

[117] Some of the key informants gave written material of sacred *karakia* and *whakatauki.* They are acknowledged here. However, I was not given permission to include them in the thesis, but for my personal use only.

[118] Some of the key informants gave written material of sacred *karakia* and *whakatauki.* They are acknowledged here. However, I was not given permission to include them in the thesis, but for my personal use only.

Near the end of the *Māori* river community fieldwork visits (late July, 2003), evaluation and conclusion were built into the last series of interviews. I concluded with cross-checking my initial fieldwork findings with the interviewees. Various opportunities were provided for the research participants to restate or reaffirm any information they had given, through community *hui*, re-visits, follow up letters and phone calls. This was prompted by pre-sent documentation advising of the upcoming conclusion of my fieldwork *(Appendix 3.5hiv)*.

The evaluation measure of a preliminary research findings report was sent out to all of the research participants prior to my final fieldwork visits (*Appendix 3.5i*). This was compiled through my initial analysis of the micro documented, oral and observable data. Beforehand, I advised each *Māori* case study community that my last fieldwork visits were aimed at eliciting their feedback. Thus, the preliminary research report was the major topic of discussion in my final *Māori* fieldwork visits with the research participants.

Furthermore, I felt very fortunate and appreciative of the depth at which the *Māori* research participants engaged the research interviews. In reciprocation, my engagement was equally deep and intense.

I note several dysfunctional episodes of physical, emotional and spiritual threat and danger, involving my growth and survival strategies of crying, escape, ill health and acceptance. I particularly acknowledge my own coping limitations and dysfunctional responses/behaviours in ones adaptation to cultural survival and loss. In terms of one's own survivable adaptability, I am eternally thankful for the life apprenticeshiping and growth. The future implications of this late-modern *Maori* reflexivity on current *Māori* and non-*Māori* methods of *Aotearoa* scholarship is also considered in *Chapter 8.*

3.4.22   Review of the follow on stage

In fieldwork follow on, I was essentially concerned with the forever lasting reciprocation obligations of *utu utu (Appendices 3.7a,b,c,d* and *Postscript, Appendix 9.1).* My immediate reciprocation practices related to the *kanohi ki te kanohi* principles of keeping in touch, being available to help and attending

important community events. This included the ongoing liaison with the living *kaitiaki*, carrying out *Māori* community work contributions, attending *tangi,*[119] funeral, and undertaking allocated tasks. For example, these obligations were timetabled into my doctoral research plan, as detailed in *Appendix 3.7a*

Doing follow on research projects and initiatives of benefit to the three *Māori* community case studies were some of my *utu utu* practices, including proposal writing and funding applications (*Appendices 3.7bi,ii).* More relevantly, I undertook *Māori* consultancy work which applied the synergistic research model of the thesis in order to empower *Māori* for the betterment of *Harataunga kaitiaki* (in relation to foreshore and seabed *kaitiakitanga*) and *Waitahanui kaitiaki* (in relation to lake-side, wastewater treatment and land disposal expansion *kaitiakitanga*). A detailed account is provided in the *Postscript* of the thesis.

Also, I will always hold *utu utu* obligations to the research funding organisations and University departments which supported my doctorate. Thus far, my reciprocal practices have included *Kaupapa Māori* liaison work[120] (as an expression of *mana)*, helping and supporting other *Māori/*non-*Māori* doctoral colleagues (as an expression of *manaaki)* and attending/participating in *hui,* gatherings and workshops/conferences of the funding organisations and University departments (as an expression of *kanohi ki te kanohi).* For further details see *Appendices 3.7ci,ii.*

Additionally, I held generic obligations to the advancement of *Māori.* A most critical obligation was to improve my *Māori* language fluency as a foundation for my own efforts to advance *Māori.* As a starting point, I successfully completed four *Māori* undergraduate papers of the total immersion 2006 *Te Reo Māori* course '*Te Tohu Paetahi'.* My other contributions during this study period included being the course representative, secretarial assistant of the course representative committee, and course representative on the *Māori* Academic Board of Studies.

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[119] For example, the researcher attended the funerals of several research participants whom passed away during the doctoral enrolment period. This is detailed in the acknowledgements of the thesis.

[120] For example, I have been the *Kaupapa Māori* liaison officer of the International Global Change Institute from 2003 - 2007.

Notably, the multitude of 2006 *utu utu* practices (that is, my ongoing *Māori* community work obligations as eight year secretary of the *Waitahanui marae* trustees and eight year chairperson of the Hamilton East School *Māori* parent group, my *Kaupapa Māori* liaison officer obligations, my *Māori* consultancy work obligations to apply the synergistic research model of the thesis, and my obligations to improve one's own *Māori* language fluency) cross-cut my final rewriting period of the penultimate thesis draft commencing April 2006. In my viewpoint, I was spiritually guided to undertake the *utu utu* practices in order to reach an advanced level of life apprenticeshiping of the *Māori* reflexive self for the completion of the doctorate; that being, in futuristic terms of the advancement of *Māori.* However, my obligatory enthusiasm for *utu utu* went to far, and required re-grounding within the immediate obligation to complete the doctorate. I acknowledge the firm directives of my supervisors in this regard and accept the spiritual lessons of the final rewriting from the later part of 2006 onwards under extreme exhaustion, failing confidence and the intensified pressure to complete.

Finally, in the 2006 rewriting period, I was obliged to report back to the *Māori* and environmental authority community case studies. A final doctoral research report was sent out in April 2006 *(Appendix 3.7d).* Thereafter, I have reciprocation obligations to continue contributing back to the *Māori* river community and environmental authority case studies of the study.

As briefly reviewed in sub-sections *3.4.15 - 3.5.22,* fluidity was utilised in fieldwork proper and follow on with particular regard to the engagement of the *Māori* reflexive self in the detraditionalidation of cultural survival and loss of one's own life apprenticeshiping. In the above sub-section *(3.4),* I argued that it was through one's own methodological employment of late-modern reflexivity as insider researcher that the subtleties of the empirical research case studies were realised.

3.5   Conclusion

In conclusion, this chapter presented the methodological development and application of And/Also nuanced problem solving from macro-theory down and from the practical flax roots up.

Drawing from the previous chapters And/Also theorising of synergy in value comparison, *Chapter 3* provided original And/Also thought on synergy in value balance methodologically developed and applied into existing methods and techniques and by the creation of new ones for potential contemporary use and application on a global and national scale.

To finalise, *Chapter 3* completes my nuanced problem solving of the comparison of values in *Part One* of the thesis, as articulated through the theories of value change and reflexivity. The next chapter *(Chapter 4)* begins *Part 2* of the thesis on the balance of values, as articulated through the theories of nuanced reality and reflexive practice, starting with my comparative analysis of the nuanced reality of sustainability and the *Resource Management Act 1991*.

PART 2 BALANCE OF VALUES

Chapter 4
Evolution of the sustainable development
paradigm and *Resource Management Act 1991*

4.i Nuanced reality - stage 3 of the articulation of theory in the study

In this chapter and the next *(Chapter 5),* I focus on my theorising of nuanced reality, as highlighted at stage 3 of the articulation of theory in the study *(Table 4.i).* Both chapters are theorised at the meso theoretical level. *Chapter 4* deals with the nuanced reality of sustainability and the *Resource Management Act 1991* and *Chapter 5* focuses on the nuanced reality of environmental monitoring and environmental performance indicator development.

**Table 4.i Stage 3 of the articulation of theory in the study -
conceptual framework**

Theoretical level	Chapters of the thesis	Theoretical focus
Stage 1		
Macro theory	Preface - Chapter 1	Value change
Stage 2		
Macro theory	Chapters 2 - 3	Reflexivity
Stage 3		
Meso theory	**Chapters 4 - 5**	**Nuanced reality**
Stage 4		
Micro theory	Chapters 6 - 8	Reflexive practice

4.ii Stage 3 terminology - the acronyms and concepts of nuanced reality

I first introduce and define the stage 3 terminology of the thesis. The acronyms and concepts of nuanced reality in the study are listed in *Tables 4.iia,b (Glossaries).*

Table 4.iia   The acronyms of nuanced reality in the study - definitions

Acronym	Definition	Meaning
SDP	*sustainable development paradigm*	sustainability world paradigm
WIO	*Westphalia international order*	vertical international environmental governance and management
WKS	*Westminster-Keynesian system*	vertical *Aotearoa* (national) environmental governance and management

Table 4.iib   The concepts of nuanced reality in the study - definitions

Concept	Definition
hierarchy	vertical institutional framework
hierarchy and multiple model connection	model of cross-cutting verticality and multiplicity
informational reflexivity	accommodation processes of knowledge/value change
multiple sustainability model	counter-hegemonic, conservation model of sustainability
multiplicity	non-official discourse
non-official discourse	non-scientific, alternative worldviews
official discourse	dominant western scientific knowledge/values
performance	conservation oriented viewpoint of the environment
performativity	growth oriented viewpoint of the environment
re-matching	hegemonic accommodation of the other, whereby non-official status is retained
supremacy	hegemonic superiority
vertical governance	vertical epistemological connection of WIO and WKS
verticality	official discourse
vertical sustainability model	hegemonic, growth oriented model of sustainable development

Through my theorising of the acronyms and concepts of nuanced reality in the study *(Tables 4.iia,b),* And/Also is built from oppositions (And/Or) between *te ao Māori* and western science. Thereby, in the following, And/Or is used with the purpose of appropriating And/Also.

4.iii Stage 3 of my Māori theorising of theory and reality

As I emphasised from the beginning *(Prelude),* my *Māori* theorising puts forward a two-sided *Māori* viewpoint of theory and reality, whereby theory (or *'side a')* informs my articulation of social reality (or *'side b')* in stages 1 and 2 of the thesis *(Preface* and *Chapters 1 - 3);* and social reality (or *'side b')* informs my theorising of theory (or *'side a')* in stages 3 and 4 of the thesis *(Chapters 4 - 8) (Figure i.i.).* Hence, these two chapters *(Chapters 4* and *5)* introduce how social reality (side b) informs the articulation of theory (side a), as highlighted at stage 3 of my *Māori* theorising of theory and reality. This is depicted in the schema in *Figure 4.i.* below, which was first used in the *Prelude* as *Figure i.i.*
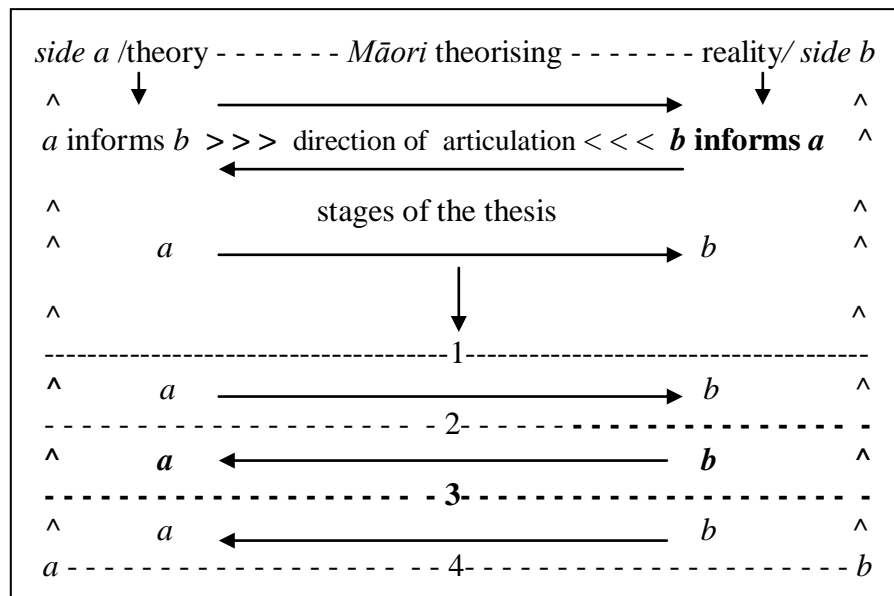
Figure 4.i   Schema of my *Māori* theorising of theory and reality - stage 3: where social reality (side b) informs theory (side a)

4.iv   The stage 3 whakatāukī of the study and my pro-Māori use of theory

The thesis also started with an overview of my pro-*Māori* use of theory *(Prelude),* drawing upon the thematic development of *Māori whakatāukī,* whereby one of them (*'E tipu, e rea, mō ngā rā o tōu ao; ko tō ringa ki ngā rakau a te Pākehā hei ora mō to tinana, ko tō ngākau ki ngā taonga a ō tīpuna hei tikitiki mō tō māhunga, ā ko tō wairua ki te Atua, nāna nei ngā mea katoa',* 'Grow and branch forth for the days of your world; Your hand to the tools of the *Pākehā* for the welfare of your body, Your heart to the treasures of your ancestors as adornments for your head, Your spirit with God, who made all things') embraces the others. To me, it encompasses my pro-*Māori* theoretical emphasis on 'progress forward and *Māori* reflexivity' or the main *whakatāukī* of the study *(Table 4.iii).*

In the next two chapters *(Chapters 4* and *5),* I commence with the *Māori whakatāukī 'Tungia te urarua, kia tupu whakaritorito te tupu o te harakeke',* 'Burn the over-growth to enable the flax to bring forth new shoots'. In my viewpoint, it encapsulates a pro-*Māori* theoretical emphasis on 'the adaptive strength of *Māori* reflexivity', as defined in terms of the six main attributes at stage 3 of the thesis *(Table 4.iii).* I give a detailed account of the stage 3 *whakatāukī* in *Appendix i.ii.*

Table 4.iii   Overview of my pro-*Māori* use of theory and theoretical argument of the study - conceptual framework/ stage 3

Issues	Actions	Outcomes	Limitations	Implications	Future Research
Main attributes of the theoretical argument					
Issues	*Actions*	*Outcomes*	*Limitations*	*Implications*	*Future Research*
Main whakatāukī, proverbial theme - 'Progress forward and Māori reflexivity'					
PART 1: COMPARISON OF VALUES					
Stage 1 whakatāukī, proverbial theme - 'The synergistic potential of Māori reflexivity'					
contesting value systems	*Māori* theorising of the difference and affinity of values	synergistic approach	unrealised potential of synergy	reconciliation of values	reconciliatory approaches
Stage 2 whakatāukī, proverbial theme - 'An evolutionary viewpoint of Māori reflexivity'					
reflexive change	*Māori* theorising of reflexive change	*Māori* viewpoint of reflexive change	*te ao Māori* as non-reflexive	reflexive processes of cultural loss and cultural survival	*Māori* adaptive strategies of cultural loss and survival
PART 2: BALANCE OF VALUES?					
Stage 3 whakatāukī, proverbial theme - 'The adaptive strength of Māori reflexivity'					
nuanced reality of synergy	***Māori* theorising of nuanced reality**	***Māori* viewpoint of nuanced reality**	**oppositional theorising**	**nuanced reality of oppositions and similarities**	**nuanced problem solving**
Stage 4 whakatāukī, proverbial theme - 'The adaptive endurance of Māori reflexivity'					
reflexive practice of synergy	*Māori* theorising of reflexive practice	*Māori* viewpoint of reflexive practice	one-sided viewpoint of reflexive change	reflexive practice of cultural loss and survival	*Māori* reflexive practice of cultural survival and loss

4.1   Introduction

Chapter 1 pointed out that the search for synergy unfolds in two main parts of the thesis. *Part 1 (Preface* and *Chapters 1 - 3)* put forward my And/Also nuanced problem solving of the comparison of values. In *Part 2 (Chapters 4 - 8)*, I theorise the nuanced reality of the balance of values. To begin, *Chapter 4* reports on my estimated correlated findings of growth and conservation from the search for synergistic balance in the nuanced reality of the sustainable development paradigm (SDP) and *Resource Management Act (RMA) 1991.*

In *Chapter 1,* my proposition on the underpinning subtleties of late-modern synergy and *Māori* reflexivity in sustainable environmental governance and management regimes under the *Resource Management Act 1991* was highlighted. As theorised through the *Māori* And/Also stance of *Chapter 4 (Chapter 1),* I conduct a comparative analysis of the nuanced reality of synergistic value change in the evolution of the sustainable development paradigm and *Resource Management Act 1991.* I begin by locating the meso *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum of the study at the evolutionary distinguishing point of the present period. The remainder of the chapter briefly outlines how the reflexive processes of late-modern synergy have evolved to the current time period, first, in relation to the sustainable development paradigm, and then, in relation to the *Resource Management Act 1991.*

4.2   The meso *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum

The *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum of meso late-modernity is located in evolutionary terms of contemporary synergistic value change, as conveyed in the two sub-sections of this section *(4.2.1 - 4.2.2).* Sub-section *4.2.1* sets out the evolution of the contesting values of growth and conservation in national/*Aotearoa* sustainable governance and management regimes under the *Resource Management Act 1991.* Sub-section *4.2.2* identifies the adaptive potential of *Māori* reflexivity in reflexive processes of synergistic value change at meso late-modernity.

4.2.1 Growth under the Resource Management Act 1991 - the Māori provisions and sustainability

> By adopting the concept of sustainable development, two old enemies growth and development are reconciled (Escobar, 1995: 7).

> . . . *Māori* cultural values are given recognition in the *Resource Management Act 1991.* The main purpose of the Act is sustainable management of our environment. There was considerable consultation with *Māoridom* in the development of the legislation and therefore much hope that *Māori* would have a greater role in the environmental decision-making process. Sadly, after nine years of experience under the RMA, this is not the case. In 1993, the *Waitangi* Tribunal ruled that the Resource Management Act was 'fatally flawed', because the Treaty protections within the RMA were too weak . . . (Solomon, 2000: 7).

One could have presumed that *ngā tikanga tūpato* (through its *Māori* provisions under the *Resource Management Act 1991, Appendix 1.1)* would have gained a greater authority in environmental decision-making by its close connection with the conceptualisation of sustainability (through its sustainable management provision under the *Resource Management Act 1991, Appendix 1.1).* It would seem reasonable to assume that the *Māori* and sustainable management provisions interact in a complementary way to reinforce the legitimacy of *ngā tikanga tūpato* through conservation versus growth and conservation over growth. After all, they are both similarly oriented toward a shared conception of sustainability, based on the post-materialist green values of environmental preservation and conservation *(Chapter 3).* Such assumptions need a more thorough consideration. For as Escobar (1995) and Solomon (2000) both suggest, it seems apparent that the concept of sustainability under the *Resource Management Act 1991* is in fact underpinned by the materialist value of growth (that is, growth over conservation and growth versus conservation).

As exemplified by these commentators on sustainability and the *Resource Management Act 1991* (Escobar, 1995; and Solomon, 2000), an epistemological leaning toward the value pole of materialist growth (with particular regard to the western scientific value of economic and biological

determinism) was distinguished at the current locale of meso late-modernity. In this study, such a proposition was founded upon the culmination of my correlated findings of growth and conservation that transcended the meso documented data trajectory on sustainability and the *Resource Management Act 1991*. Moreover, this meso empirical evidence indicated that the materialist growth value of economic and biological determinism was woven into the official epistemological framework informing environmental decision-making of *Aotearoa* sustainable governance and management regimes. Consequently, I argue that it was the hegemonic power and authority of economic and biological determinism which disempowered *ngā tikanga tūpato* from advocating sustainability under the *Resource Management Act 1991* at meso late-modernity.

4.2.2 *Official and non-official discourse - reflexivity*

Nevertheless, reflexivity underpinned the meso documented data trajectory, whereby *ngā tikanga tūpato* (non-official discourse) challenged hegemonic western scientific knowledge (official discourse). The distinction of official and non-official between them being coined 'the official and non-official discourse distinction' for my research purposes here.

As a consequence, I propose that both discourses were engaged in reflexive processes of knowledge/value change (referring to growth versus conservation, conservation over growth and conservation versus growth), in which indigenous knowledge and values were either accommodated or dismissed by the dominant or official discourse. Hence, reflexivity underlay the interplay between the official and non-official discourse distinction.

Therefore, it was at the interface of the official and non-official discourse distinction that the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum was located in the search for synergistic balance from my *Māori* And/Also stance. Overall, the conflict and convergence of values were possibly occurring with the opening up of dominant western scientific knowledge in paradigmatic shifts of sustainability under the *Resource Management Act 1991*. Thereof, the remainder of the chapter comparatively analyses late-modern processes of synergy underpinning both knowledge/value

systems. By tracing the adaptive strategies of *Māori* reflexivity over time, I argue that the synergistic potential of *ngā tikanga tūpato* could be realised.

4.3 Evolution of the sustainable development paradigm and *Māori* reflexivity

The following ten sub-sections present my comparative analysis of the nuanced reality of sustainability in the study *(4.3.1 - 4.3.10)*. The first part identifies how the contesting discourses of growth and conservation were compared throughout the emergence of the sustainable development paradigm *(4.3.1 - 4.3.5)*. The remainder compares paradigmatic shifts throughout the evolution of synergistic value change *(4.3.6 - 4.3.10)*; first, at the global level of environmental governance and change *(4.3.6 - 4.3.9)* and lastly, in association to mainstream notions of sustainability *(4.3.10)*.

4.3.1 Growth and sustainability

> . . . Back in the 1960's and 1970's, when contemporary environmentalism first emerged, the goal was more obvious and the route more clear before they became obscured by political compromising. The goal was to save the living world around us, millions of species of plants and animals, including humans, from destruction by our technology, population, and appetites . . . By the mid-1980s such an alternative, called 'sustainable development', had emerged . . . (Worster, 1993: 133).

As suggested by Worster (1993) in the above quotation, it was in the transition from ideas and circumstances about nature as enemy to denatured nature or the end of nature, that the sustainable development paradigm emerged in the 1970s. What Worster (1993) and many others (Black, 1994; 1996; Grove-White, 1993; Hannigan, 1995; Milton, 1991; Moffatt, 1996; Pepper, 1993; 1996; Serageldin, 1995; and Serageldin et al., 1994) referred to as the birth of 'modern environmentalism', in fact arose from a transitory position that was driven by a breakdown in the relations of production (Bell et al., 2003; Bennett et al., 1999; Brundtland, 1987; Guyette, 1996; Meadows, 1972; Meadows et al., 1992; 2004; World Bank, 1992; and Worster, 1993).

The world renowned 1970s state of the environment report (Meadows, 1972) titled 'The Limits to Growth' affirmed how the initial sustainable development

paradigm thinking was generated from a nature/resource impediment to 'development'. An underlying concern for the continuation of the relations of production prevailed. Economic and biological determinism gained a dominant or official capacity. Therefore, I argue that such epistemological preoccupations of materialist growth, grounded growth over conservation from the evolutionary beginning point of sustainable development paradigm thinking onwards.

4.3.2 *Māori reflexivity - counter-hegemony and non-official discourse*

> That Indigenous Peoples play a vital role in the conservation of biological diversity - the key to sustainable development - was explicitly recognised for the first time in Rio at the United Nations Conference on Environment and Development (UNCED), 1992. Rio produced a number of agreements recognising the key role of Indigenous Peoples in sustainable development. However, over the past decade, few of these agreements have been adequately honoured. The World Summit on Sustainable Development (WSSD), to be held in Johannesburg, South Africa, August 26 - September 4, 2002, provides an opportunity for states to transform the rhetoric of the UNCED into reality. While the Commonwealth of 54 nations has explicitly recognised that a viable sustainable development policy has to give priority to the environment and the market, it has still not acknowledged the critical role that Indigenous Peoples can play in sustainable development (Havemann et al., 2002a: iii).

In comparison, Havemann (2002a) captured how the reflexive potential of *ngā tikanga tūpato* only attained a marginal or non-official influence, alongside 1970-80s socio-cultural and environmental movements of conservation over growth in counter-hegemonic opposition to the relations of production (Alvarez et al., 1998; Anaya, 1996; Barnes, 1988; Bennion et al., 2004; and Berke et al., 2000). Since biological and economic determinism was already locked in, I propose that the opposing standpoint of conservation over growth, termed 'modern environmentalism', as coined by Worster (1993) and others (Barton, 2002; Cant et al., 1993; Moffatt, 1996; Serageldin, 1995; and Serageldin et al., 1994) became non-official. There were a raft of other names similarly attributed to the split between discourses, including the rationalist/romantic discourse split and the public/private domain distinction (Grove White, 1993;

Grove-White et al., 1992; Hannigan, 1995; and Yearly, 1991; 1994). In my conceptual analysis, *ngā tikanga tūpato*/indigenous knowledge formed part of the non-official opposing standpoint of modern environmentalism.

However, *te ao Māori* did not have a high profile in what I referred to as the dominant realm or 'mainstream' of modern environmentalism, as Dobson's green political value spectrum usefully articulates (Dobson, 1990; 1999; Dobson et al., 1995; and Grundy; 1993). Importantly, the festering legacy of pre-modern thinking, stemmed on a past-based viewpoint of *te ao Māori*, underscored Green Political Thought. Such pre-occupations with the pre-modern brought a backward viewpoint of *Māori* reflexivity (Gillesspie, 1998; Klein, 1999; and Ministry for the Environment, 1999a).

Consequently, much thought on mainstream modern environmentalism ignored the reflexive potential of *te ao Māori* (Dobson, 1990; 1995; Pepper, 1993; 1996; Serageldin, 1995; Serageldin et al., 1994; and Worster, 1993). Most significantly, the evolution of sustainability was narrowly defined within the modern era. Thus, *Māori*/indigenous adaptation to change was persistently undermined. As the below quotation of Worster (1993: 133) illustrated, the sustainable development paradigm simply originated from modern origins of modern environmentalism:

> First it appeared in the *World Conservation Strategy of the International Union for the Conservation of Nature* (1980), then in the book, *Building a Sustainable Society,* by Lester R. Brown of Worldwatch Institute (1981), then in another book, *Gaia: An Atlas of Planet Management,* edited by Norman Myers (1984) and then most influentially in the so-called Brundtland Report, *Our Common Future* (1987) . . . (Worster, 1993: 133).

As a consequence, *Māori/*indigenous peoples evolving reflexive strategies of sustainable environmental use were frequently overlooked.

Thereof, this meso empirical evidence confirmed that the reflexive potential of *ngā tikanga tūpato* in conservation over growth and conservation versus

growth was outweighed by the prevailing dominance of materialist growth in terms of growth over conservation and growth versus conservation.

Drawing on these meso correlated findings of growth and conservation, I next introduce the medium abstracted concepts *(Tables 4iia,b),* which were employed to comparatively analyse such underlying reflexivity along the meso value continuum of sustainability and the *Resource Management Act 1991.*

4.3.3 The post-materialist green nexus of conservation values in multi-transitory change - multiplicity and verticality

In my comparative analysis of the contesting discourses of *te ao Māori* and western science, I postulated that *ngā tikanga tūpato* and post-materialist green values converged (referring to conservation over growth, and conservation versus growth) and diverged (referring to growth over conservation, and growth versus conservation) through reflexive processes of the official and non-official discourse distinction, located from the opposing position of non-official discourse (Barton, 2002; Cox, 1993; Doig, 1996; Gale, 1996; *Kawharu,* 2002; McCan et al., 1990; *Rata,* 1996; and Roberts, 1996). By contrast, *Māori* reflexivity was embedded within counter-hegemonic responses to the hegemony of growth. Hence, *Māori*/indigenous people's reflexive adaptive strategies were not separated or differentiated.

Hitherto, one can surmise that *Māori* reflexivity was engaged in reflexive processes of knowledge/value change between non-official discourse in terms of conservation over growth, and conservation versus growth (as articulated through the multiple model of sustainability in the study), and official discourse in terms of growth over conservation and growth versus conservation (as articulated through the vertical model of sustainability in the study). As drawn from Harris's (2002) theorising of *Aotearoa* environmental governance and management regimes, the multiple and vertical models of sustainability are schematically depicted in *Figure 4.1.*
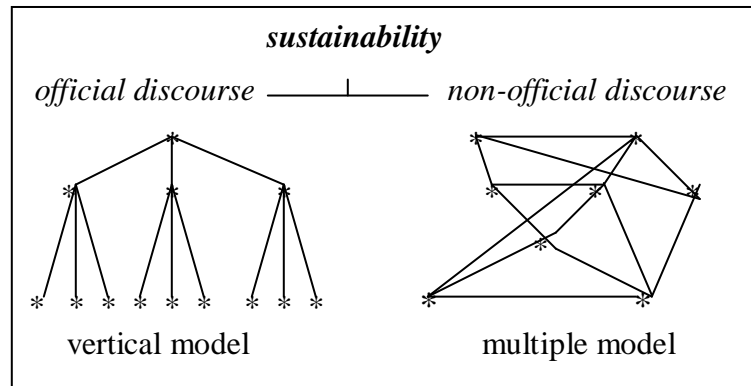
**Figure 4.1   The multiple and vertical models of
sustainability - schema**[Note]

In the above schema *(Figure 4.1),* the sustainable development paradigm was theorised by reference to the two underpinning conceptual models of verticality - referring to the vertical sustainability model - and multiplicity - referring to the multiple model of sustainability. My primary concern is the post-materialist green nexus of conservation values in reflexive processes at the official and non-official discourse distinction. In my conceptual analysis, this relates to the multiple model of sustainability's challenge to verticality between the contesting discourses of growth and conservation.

On one side, verticality referred to a vertical side viewpoint of sustainability in official discourse, translated from Harris's conception of 'tree' *(Figure 4.1).* Briefly, his tree analogy characterised verticality at two main vertical hierarchical levels - referred to here as the 'top' and 'bottom'. The top vertical hierarchy level was depicted by the key characteristic of supremacy, including the main facets of superiority, ultimate power/authority and hegemonic control. It was in the bottom vertical hierarchy level where infiltrating verticality penetrated through an institutionalised hierarchical framework, as illustrated by the 'branches' of the tree analogy.

In comparison, multiplicity referred to the multiple side viewpoint of sustainability in non-official discourse, translated from Harris's conception of 'polyarchy' *(Figure 4.1).* By contrast, his polyarchy analogy characterised multiplicity by multiple voices of expression; that is, as opposed to the

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[Note] From Harris, C. (1996). Environmentalism, Economics and the Limits of Calculative Regimes. In Peters, M. Critical Theory, Post-structuralism and the Social Context. Copyright 1996 by Harris, C. Adapted with permission.

singular, dominant or hegemonic voice of vertical hierarchy. Instead, the multiple sustainability model was depicted by the key characteristic of multi-dimensionality, including the main dimensions of holism, cross-cultural intersection and inter-connectedness.

Taken together, Harris's (2002) theorising of the tree and polyarchy analogies (*Figure 4.1)* encapsulate the reflexive processes of synergistic value change being played out in sustainable governance and management regimes under the *Resource Management Act 1991.* As this reflexivity is generated from the dynamic power and authority of hegemonic growth, my comparative analysis focused on the vertical underpinnings of official discourse and *Māori* reflexivity, as briefly introduced next *(4.3.4).* I then introduce the vertical epistemological inter-connection between international and national environmental governance and change *(4.3.5).*

4.3.4 *Māori reflexivity and official discourse - supremacy, hierarchy and re-matching*

I focused on three major characteristics of official discourse impacting on *Māori/*indigenous people's reflexive adaptation to change - referring to the vertical attributes of 'supremacy', 'hierarchy', and 're-matching' *(Table 4.iib).* These have an all-encroaching capacity of reflexive modernisation and synergy, drawn on macro theoretical evidence that such verticality penetrated all world institutions of modernity; thus, being all-encompassing.

My theorising was employed from the distinguishing point of meso late-modernity forthwith. The supremacy concept theorises an over-riding authority, power and hegemony, coupled with the legacy of ethnocide, assimilation and oppression. In the hierarchy concept, I theoretically articulate the ubiquitousness and pervasiveness of institutional control and power through divisional lines and systems of authority - a kind of infra-structural and mechanistic control system. Lastly, 're-matching' theorises the hegemonic power process of re-fitting or accommodation of the 'other' to match with the official discourse, but at the same time it involves retention of non-official status.

4.3.5 *Official discourse and vertical epistemology - vertical governance*

I propose that these vertical attributes of official discourse were inter-connected both internationally and nationally, as articulated by reference to the 'vertical governance' concept. The Westphalia international order refers to the global level of vertical governance; whereas the Westminster-Keynesian system refers to the national/*Aotearoa* level of vertical governance. Indeed, they are inter-connected through the dominant or official epistemology of vertical governance which underpins them. I start with global vertical governance (Westphalia international order) and follow with national vertical governance (Westminster-Keynesian system).

4.3.6 *Global vertical governance*

> Indigenous people and their communities, and other local communities have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development (Principle 22, 1992 Rio Declaration).

> An open, equitable, secure, non-discriminatory and predictable multilateral trading system that is consistent with the goals of sustainable development and leads to the optimal distribution of global production in accordance with comparative advantage is of benefit to all trading parties (Section 2.5, 1992 Agenda 21).

At the crux of global vertical governance, is the political-legal underpinnings of vertical epistemology from which it has evolved, as drawn from the concepts of 'hard law' and 'soft law' (Bennion, 2005; Fitzmaurice et al., 2003; Kirton et al., 2004; Reus-Smit, 2004; and Shaw, 1997). On one side, hard law thought propounds the hegemonic authority of western scientific knowledge under mandatory political-legal terms of reference, for the purpose of litigation and enforcement in the jurisdiction. Therefore, hegemonic western scientific knowledge holds an official or dominant capacity in hard political-legal provisions of global vertical governance. For example, economic and biological

determinism is woven into hard law political-legal imperatives of global vertical governance, as exemplified in the above passage from Agenda 21.

On the other side, soft law thought propounds a thought reproach, set apart for the conscious rather than transferable enforceability to state law. Therefore, counter-hegemonic alternatives became non-official in soft political-legal provisions of global vertical governance. For example, indigenous knowledge and values were woven into soft law political-legal imperatives of global vertical governance, as illustrated in the above passage from the Rio Declaration.

Taken together, as vertical epistemology became official with hard law, only discretionary obligations fell on non-official discourse through soft law. Thence, the reflexive processes between them were constituted upon one's own discretion of political-legal obligations toward non-official discourse, compared to hegemonic official discourse, as enforced by the dominant vertical epistemological framework. A most crucial implication being the discretionary power to define one's own obligations under these soft and hard law imperatives of global vertical governance, as further examined in *Chapters 5 - 6.*

4.3.7 Counter-hegemony and global vertical governance

Despite the hard law enforceability of official discourse, the soft law counter-hegemonic movement of non-official discourse has evolved at a quite a high profile level of global vertical governance. Several historical events of soft law counter-hegemony were especially significant in the evolution of modern environmentalism. Therefore, I highlight these counter-hegemonic soft law imperatives. My summary chart is provided in *Table 4.1*.

Table 4.1   **Soft law counter-hegemonic origins of global vertical governance - summary chart**

Modern environmentalism - key historical events	
- *1972:* World Summit on the Environment - *1987:* Brundtland Report - *1992:* Rio Declaration/Agenda 21, Climate Change Convention - *1994:* Convention of Biological Diversity/CBD	
Political-legal framework of global vertical governance	
WIO	*WKS*
- *1992:* Rio Declaration/principle 22 - *1992:* Agenda 21/chapter 26 - *1994:* CBD/articles 8(j), 10c, 10d	- *1840:* Treaty of *Waitangi* - *1975:* Treaty of *Waitangi* Act - *1991:* RMA/*Māori* & sustainability provisions

As exemplified in my brief summary of the soft law counter-hegemonic origins of global vertical governance *(Table 4.1),* the political-legal framework of global vertical governance is linked to these key historical events of modern environmentalism both internationally and nationally. I elaborate on the political-legal imperatives of global vertical governance in the Westphalia international order (WIO) and Westminster/Keynesian political-legal system (WKS) in *Appendix 4.1* and *Appendix 1.1* respectively.

More particularly, although the *Resource Management Act 1991* rose in historical alignment to the soft law counter-hegemony of the 1970-80s modern environmentalism movement *(Table 4.1),* it pre-dated soft law political-legal provisions of the 1992 Rio Declaration/principle 22, Agenda 21/chapter 26 and CBD/articles 8(j), 10c, 10d. Without these international political-legal conventions in tow, I postulate that the *Resource Management Act 1991* more likely evolved with the domineering epistemological influence of vertical official discourse. This postulation is a key focal point in the next section of the chapter. It is also further examined in *Chapter 5.*

Having set the historical pathway of SDP paradigmatic shifts, the reflexive processes of vertical epistemological underpinnings of the Westphalia international order (WIO) are traced *(4.3.8 - 4.3.9)* before briefly examining the dominant realm or mainstream sustainability notions which evolved *(4.3.10).*

4.3.8 *Supremacy and the evolving international verticality of growth over conservation*

> The United Nations Development Program (UNDP) criticises the Trade Regulation International Policies (TRIPs) Agreement in its 1999 Human Development Report as undermining food security and public health in developing nations. The UNDP reports that TRIPs rules make it much more costly for poor and developing countries to produce seeds for crops and make medicine more accessible to the public (United Nations Development Program, 1999: 2).

> From the time that the first European vessels reached the shores of continents long inhabited by indigenous peoples, European colonists adopted a terra nullius world view. Our lands were declared vacant by papal bulls you created to justify the pillaging of our lands . . . Only recently has the world begun to concede the inaccuracy of racism behind this view. There is an almost desperate attempt by the descendants of colonizers to consign the terra nullius perspective to history, but recent developments in the area of human genetic research, engineering and human gene patents brings back haunting and painful memories to indigenous peoples of European colonial domination (Mead, 1996: 46).

Thus, growth over conservation was correlated in the meso knowledge/value trajectory on sustainability throughout the evolution of international vertical governance related to verticality underpinnings of supremacy. As the above quotations illustrate (Mead, 1996; and UNDP, 1999), global non-official discourse provided a counter-hegemonic voice on the supreme defining power of the Westphalia international order (Barber, 1996; Battiste et al., 2000; Cant et al., 1993; Chossudovsky, 1997; Escobar, 2001; and Perry, 1996).

Macro-historically, such meso global supremacy evolved in world colonisation legacies of the modern era, from which the Westphalia international order was founded. These originating supreme ideas included sovereignty, liberalism and state *(Appendix 2.2)*. Moreover, they enabled supremacy to penetrate at an all-over extent of the global legal-political order (Allen et al., 1992; Alvarez at al., 1998; Anaya, 1996; Bailey, 1991; Havemann, 2002b; Pauly, 1996; Rata, 1996; Reus-Smit, 2004; and Sen, 1998).

Ineffectively, much debate on the sustainable development paradigm revolved around the argument that non-official discourse was only given rhetorical consideration under Westphalia international order supremacy (Escobar, 2001; Havemann et al., 2002; Howitt, 2001; and Shiva, 1993). Many writers on the sustainable development paradigm reflected on past assaults of ethnocide, assimilation, and oppression, arguing how they seem re-implanted within 'new' sustainability discourse (Archibugi et al., 1998; Chossuudovsky, 1997; Mead, 1996; and Shiva, 1995). For example, both of the above passages (Mead, 1996; and UNDP, 1999) exemplified how Westphalia international order supremacy appeared to operate over and above any detrimental impacts on *Māori/*indigenous peoples (Barber, 1996; Battiste, 2000; Bebbington, 1993; Havemann, 1999; Mead, 1996; Simon, 2000; and UNDP, 1999).

Of course, supremacy reflexively transcends burgeoning efforts at value balance by the Westphalia international order to employ sustainability (Moffatt, 1996; and World Bank, 1992), including socio-cultural indicator development within the world financial systems of the Bretton Woods institutions. However, I propose that the power to define, remains within the supreme authority of the Westphalia international order, with specific regard to the Bretton Woods institutions. This postulation is further examined at the global supreme level of international environmental monitoring in *Chapter 5*.

4.3.9 *Westphalia international order hierarchy and re-matching*

> The Global debt . . . How were sovereign countries brought under the tutelage of the international financial institutions? Because countries were indebted, the Bretton Woods institutions were able to oblige them through the so-called 'conditionalities' attached to the loan agreements to 'appropriately' redirect their macro-economic policy in accordance with the interests of the official and commercial creditors . . . (Chossudovsky, 1997: 47).

> Indigenous knowledge is an important natural resource that can facilitate the development process in cost-effective, participatory and sustainable ways . . . Modern scientific knowledge is centralised and associated with the machinery of the state; and those who are its bearers believe in its superiority. Indigenous technical

> knowledge, in contrast, is scattered and associated with low prestige rural life; even those who are its bearers may believe it to be inferior . . . (Agrawal, 1995: 415 - 16).

In my comparative analysis, the correlation of growth over conservation was additionally founded on the verticality underpinnings of hierarchy and re-matching. At the infrastructural level of the Westphalia international order, the former relates to the global hierarchical infiltration of vertical epistemology (Black, 1996; Ginther et al., 1995; and Havemann et al., 2002). As exemplified in the top above quotation, Chossudovsky (1997) notes the systemic penetration of world-oriented hierarchy aimed at the segmentation of society on the basis of economic power and authority. At the socio-cultural level of the Westphalia international order, the later relates to the global re-matching power of vertical epistemology (Escobar, 1995; Gragson, 1999; Ho, 2000; Rist, 1997; and Schuurman, 1993). For example, Agrawal (1995) illustrates the re-match between the official and non-official discourse distinction. Altogether, I propose that these vertical underpinnings were based from a supreme origin of global hegemony and power to define.

In fact, many writers on the sustainable development paradigm argue about the festering legacies of global supremacy, hierarchy and re-matching (Agrawal, 1995; Chossudovsky, 1997; Gore, 1992; and Rosenau et al., 1992) manifesting in Westphalia international order discourse on sustainability. Only a brief mention is provided for my research purposes here, as this topic is beyond the scope of my study. Rather, the vertical underpinnings of global supremacy, hierarchy and re-matching are further covered in *Chapter 5* with regard to the international environmental monitoring field of environmental performance indicator development. Taken together, I lastly postulate on the underpinning reflexive processes of vertical epistemology in the mainstream arena of sustainability notions.

4.3.10   *Reflexive processes of the mainstream arena of sustainability notions*

It was in the prevailing emphasis on development or growth in official discourse on sustainability that growth over conservation was correlated. For example, constant reference to vertical development occurred through the

sustainability notion from the 1980s Brundtland report which defined the sustainable development paradigm as:

> . . . development that meets the needs of the present without compromising the ability of future generations to meet their own needs . . . (World Commission on Environment and Development/ Brundtland report, 1987: 45).

Thereby, the correlation of potential synergy (in relation to the value exemplars of growth versus conservation, conservation versus growth and conservation over growth) was more specifically compared in the incorporation of alternative approaches to development or growth. However, much non-official writing on the sustainable development paradigm only provided a very weak consideration of alternative viewpoints. For example, Gilpin's (1996) sustainable development paradigm concept has received much popular appeal, although it simply refers to how sustainable development:

> . . . requires an integration of environmental, social and economic considerations in decision making . . . (Gilpin, 1996: 206).

Other non-official works on sustainability showed epistemological leanings toward western science and materialist growth, including the use of terms such as 'social capital', and 'human capital'; and in the utilisation of geographical information system categorisations and cultural inventories of indigenous knowledge and values (Black, 1996; Gilpin, 1996; and Harmsworth, 1997a; 1997b; 1998; 2001). Again, I note here that it is beyond the scope of this study to provide an in depth comparative analysis of non-official alternative viewpoints of sustainability and *Māori* reflexivity. This is next examined in *Chapter 5* with regard to cultural indicators in dominant environmental performance indicator development.

To summarise, this section presented my comparative analysis of the nuanced reality of sustainability in terms of the correlated findings of potential synergy under the epistemological leaning toward growth over conservation. It focused on the vertical attributes of supremacy, hierarchy and re-matching in

*Māori/*indigenous adaptation at the global environmental governance and change level of the Westphalia international order.

4.4 Evolution of the *Resource Management Act 1991* and *Māori* reflexivity

In this section, I briefly outline my comparative analysis on the nuanced reality of the *Resource Management Act 1991 (4.4.1 - 4.4.14). Māori* reflexivity is compared in the adaptive strategies of supremacy, hierarchy and re-matching under the Westminster-Keynesian system *(4.4.1 - 4.4.7)* and New Public Management regime *(4.4.7 - 4.4.13)* throughout the evolution of national/*Aotearoa* environmental governance and change.

4.4.1 Westminster-Keynesian supremacy, hierarchy and re-matching - the contesting discourses of growth and conservation

As transcended from the global vertical epistemological connection of the Westphalia international order, growth over conservation was correlated in the meso knowledge/value trajectory on the *Resource Management Act 1991* throughout the evolution of national/*Aotearoa* vertical governance related to verticality underpinnings of supremacy, hierarchical and re-matching. Despite the epistemological swing toward the growth pole of the meso value continuum, the following comparative analysis draws out the synergistic potential of *Māori* adaptation over time in relation to the value exemplars of growth versus conservation, conservation versus growth and conservation over growth, as follows.

4.4.2 Māori adaptive strategies of Westminster-Keynesian verticality - introduction

In my comparative analysis, *Māori* people's reflexive engagement with imposing verticality greatly impacted on the evolutionary course of the *Aotearoa* Westminster-Keynesian system (Asher et al., 1987; *Awatere,* 1984; Ballara, 1996; *Kawharu,* 1989; King, 1992; and Simon, 2000). Although Westminster-Keynesian system vertical epistemology evolved in congruence to other countries colonising escapades of conquest and conquered (Havemann, 1999; Howitt, 2001; and *Maaka* et al., 2005), it specifically dealt with ongoing challenge and compromise of *Māori* reflexivity. Uniquely, these reflexive processes have been continuous in *Māori* people's evolving adaptation to the

Aotearoa Westminster-Keynesian system (Durie, 1998; 2005; Havemann, 1999; *Maaka* et al., 2005; Simon, 2000; Smith, 1999; and Yoon, 1986).

In this study, the takeover of Westminster-Keynesian system verticality is demarcated from the 1840s onwards; that is, the evolutionary starting point of the Treaty of *Waitangi* (Durie, 1995; Evans, 2004; and Orange, 1987; 2004). Beforehand, the Westminster-Keynesian system was especially susceptible to *Māori* reflexivity, compared to after the Treaty of *Waitangi* (Ballara, 2003; Durie, 1998; and Fleras et al., 1992; 1999). Rather, *te ao Māori* reigned over the vertical Westminster-Keynesian system. Indeed, prior to *Pākehā* invasion, *Aotearoa* was already steeped in *Māori* reflexivity; that being, from the pre/post-migration periods thereafter (Best, 1942; Buck, 1950; and Grace, 1959; Mead, 1997; 2003; Parsonson, 1973; and Patterson, 1992; 1994; 2000).

At the beginning phase of early *Pākehā* contact around 1780, *Māori* and non-*Māori* reflexively engaged with the other - with much collaboration between cultures alongside growing *Māori* resistance to the process of colonisation (Firth, 1959; *Kawharu,* 1975; and Rice et al., 1992). Both peoples benefited and prospered from joint initiatives of pioneer science/technology and traditional *Māori* culture (Ballara, 2003; Cox, 1993; Havemann, 2000b; and *Ngata,* 1902; 1940). But by 1830, the emerging presumed superiority of hegemonic western scientific knowledge began to seep through, with its implied racial overtones and discriminations (McKinley, 2003; and Webster, 1998). By the 1840s - as Nuttall et al (1995) notes below - Westminster-Keynesian system vertical epistemology overcame the pre-established stronghold of *Māori tikanga* forever from the signing of the Treaty of *Waitangi* in 1840 (Evans, 2004; *Kawharu,* 1989; Kesley, 1990; and Ward, 1973):

> Two centuries ago *Māori* were the undisputed managers and administrators of natural resources in *Aotearoa*. The framework that this management operated in was determined by *tikanga* evolved through linkages back to the creation of the very land itself. The negotiation and signing of the Treaty of *Waitangi* in 1840 was to end this indigenous monopoly of resource management forever. It has also led to major questions over the ownership of natural resources (Nuttall et al., 1995: 1).

4.4.3 Treaty of Waitangi imperatives of Westminster-Keynesian system soft law

Indeed, Westminster-Keynesian system verticality took off from the 1840s instigation of English law, whereby the Treaty of *Waitangi* acquired a soft law status (Bennion et al., 2004; Chen et al., 1999; Havemann, 1995b; Kesley, 1990; and Williams et al., 1989). As previously argued in global vertical governance *(4.3),* the official and non-official discourse distinction came about with the revolutionary changeover of epistemological power and authority between western science and *te ao Māori.* On one side, I postulate that the Westminster-Keynesian system epistemological framework was immediately brought into a powerful and dominant location with the take-over of *Pākehā* legislation. On the other side, I also propose that *te ao Māori* lost much of its authoritative power, through soft law accordance to the Treaty of *Waitangi.* Therefore, Westminster-Keynesian system vertical epistemology was deemed official and *te ao Māori* became non-official in my postulation of the reflexive processes between them (Bennion, 2005; Jackson, 1995; and Joseph et al., 2002).

In my comparative analysis, the reversal of epistemological dominance and power stemmed from the contested ceding of *Māori* autonomy and control in the governance provision - article one[121] of the Treaty of *Waitangi* (Jackson, 1992, 1995; Orange, 2004; and Riseborough et al., 1997). Essentially, controversy revolved around *Māori (rangatiratanga)* and English *(kawanatanga)* references to governance. In the *Māori* Treaty of *Waitangi* version, *rangatiratanga* referred to *Māori* autonomous authority. In contrast, in the English Treaty of *Waitangi* version, *kawanatanga* translates as governing power in favour of *Pākehā.* Until, the 1975 Treaty of *Waitangi* Act it was the English Treaty of *Waitangi* version that predominated. This ensured the hegemonic authority of Westminster-Keynesian system vertical epistemology over *te ao Māori,* until it was contested in the 1970s thereafter (Bennion, 2005;

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[121] The Treaty of *Waitangi* encompasses three key articles, with each legal provision containing a major focus, as follows: i. Article One - governance provisions; ii. Article Two - economic/ecological provisions; and iii. Article Three - citizen/subject rights provisions. For further details see *Appendix 4.2.*

Chen et al., 1999; Cox, 1993; and Havemann, 1995b). A detailed account of both versions of the Treaty of *Waitangi* can be found in *Appendix 4.2.*

It was therefore the Treaty of *Waitangi* that particularly marked the evolution of reflexive processes between the discourses of western science and *te ao Māori*. Thereof, I next compare *Māori* people's reflexive adaptation to Westminster-Keynesian system vertical supremacy, hierarchy and re-matching from this historical time-point onwards. Accordingly, my comparative analysis is broken down into the postulation of three major periods of synergistic value change in the evolution of invading verticality and *Māori* reflexivity. First, the 'take-off period' refers to *Māori* people's reflexive adaptation to the rapid initiation of vertical infiltration from the 1840s to the 1880s. Second, the 'stabilisation period' pertains to the consolidation of verticality and *Māori* reflexivity from 1880 until 1970. Third, the 'challenge period' relates to the *Māori* renaissance movement against vertical epistemology from the 1970s onwards.

4.4.4 Westminster-Keynesian system supremacy - take-off and stabilisation

> The active destruction and dismantling of indigenous systems of customary law have followed a common pattern wherever colonisation has occurred around the world. The system of Parliamentary representation imposed on *Māori* after 1840 was based on the mono-cultural dominance of British constitutionalism. From 1856-1868, *Māori* representation was at the pleasure of the Governor. In 1868, *Māori* were represented through four seats in the Parliament, and powerless to prevent the framing of legislation and policies, which continued the confiscations of land and ignored the aspirations of *Māori* (Solomon, 2000: 6).

As Solomon (2000) points out in the above quotation, Westminster-Keynesian system supremacy sought to destroy the customary authority of *te ao Māori* during the take-off period *(Awatere,* 1984; Quentin-Baxter, 1998; and Shearer, 1994). The central colonising guise of invading Westminster-Keynesian system hegemony was the Native Lands Act of 1865 (Asher et al., 1987; and Jackson, 1992). This legislation brought in the individualisation of land ownership and

the resulting breakdown of traditional land tenure (Durie, 2005; and Smith, 1999). Most crucially, it dismantled the traditional *Māori*-people environment relationship, steeped on *ngā tikanga tūpato.* Thereby, the individualisation of land was fundamental to the initial destruction of *te ao Māori* and consequential rise of Westminster-Keynesian system supremacy (Bennion, 2004; Durie, 2005; Jackson, 1992; Joseph et al., 2002; and Solomon, 2000).

Several subsequent historical events aimed at destroying traditional *Māori* culture helped to consolidate Westminster-Keynesian system supremacy in the stabilisation period. First and foremost, the Native Schools Act of 1903 truncated the vital transmission of *Māori* tradition by prohibiting *Māori* language in education. Second, indigenous knowledge and values lost much credence with the *Tohunga* Suppression Act of 1908, which prohibited the spiritual practices of *te ao Māori.* Additionally, traditional *Māori* leadership was undermined by mono-cultural British constitutionalism (Jackson, 1992; 1995; Havemann, 1995b; Rumbles, 1998; Solomon, 2000; and Tomas, 1990).

In particular, *Māori* were marginalised by a minority political representative voice (Chen et al., 1999; and Havemann, 1995b; 1999). They only held four *Māori* seats. These were not increased until 1999 and then by only one when parliamentary seats numbered 44 (Solomon, 2000). This largely contributed to the diminishing political-legal authority of *Māori.* Two key examples of such Westminster-Keynesian system supremacy include the 1877 case of *Wi Parata* versus The Bishop of Wellington, where Chief Justice Prendergast declared the Treaty of *Waitangi* to be a 'simple nullity'. Also, in the 1901 case of *Nireaha Tamaki* versus Baker, it was argued 'that there is no customary law of which the Courts can take cognisance' (cited in Solomon, 2000: 7).

Overall, the consolidation era of Westminster-Keynesian system supremacy built an overwhelming mono-cultural bias over the customary practices of *te ao Māori* in favour of *Pākehā* custom. By then, *Māori* population had fallen to about 40,000 people, around one-fifth the total at first *Pākehā* contact (Havemann, 1995b; 1999; *Pomare* et al., 1988; and Pool, 1991).

4.4.5 *Māori reflexivity and the supremacy of land individualisation - challenge period*

In the challenge period, the 1970s revival of the Treaty of *Waitangi* (through the *Waitangi* Tribunal 1984) was foundational to the political-legal drive of *Māori* cultural mobilisation efforts, including *Waitangi* tribunal reports[122] and *Waitangi* tribal settlements[123] (Bennion, 2005; Durie, 1995; Gardiner, 1996; Thursh, 1995; and *Waitangi* Tribunal, 1992a; 1992b; 1998).

In this evolutionary time span*, Māori* reflexivity focally aimed to overturn land individualisation, which lay at the crux of Westminster-Keynesian system supremacy and the destruction of *te ao Māori*. Initially (after 1840), land alienation almost annihilated *Māori* society, by destroying the holistic inter-connections of the *Māori* people-environment relationship. Many colonial writers considered *Māori* a doomed people (Asher et al., 1987; Dalley et al., 2005; Durie, 1994; Fleming, 1959; and Tomas, 1990), as exemplified by the dismal forecast 'to soothe the pillow of a dying race' (cited in Durie, 1994: 23). Regardless, *Māori* survived, despite suffering extreme hardship and cultural deprivation. In fact, the 1970's *Māori* renaissance saw the culmination of *Māori* people's reflexive adaptation to the ravages of land individualisation. Nevertheless, the disintegration of *Māori* society caused by land individualisation created a socio-cultural disparity between *Māori* and *Pākehā,* which is now irreconcilable (Dalley et al., 2000; and Dow, 2004).

Thus, much indigenous studies writing on the challenge period, coincides with these discrepancies (Ramsden, 1990; Smith, 1999; and Walker, 1990), in highlighting the disproportionate and disadvantaged socio-economic position of *Māori* in relation to *Pākehā,* as evidenced in *'Hauora' (Māori* health review), *'Rapuora'* (*Māori* women's health review), and *'He Whaipaanga Hau'* (*Māori* and criminal system review) reports (Dalley et al., 2005; Durie, 1994; Jackson, 1987; Murchie, 1984; *Pomare,* 1980; and *Pomare* et al., 1988).

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[122] Claims regarding *Māori* rights to natural and physical resources of *Aotearoa* are reported via a *Waitangi* Tribunal process involving *Waitangi* Tribunal reports (Oliver, 1991). Notably, this includes several river resource reports and a report on *Māori* rights to indigenous flora and fauna */ Wai* 262. For further details see www.*waitangi*tribunal.govt.nz.

Additionally, many indigenous studies writers argued about the ongoing legacy of *Pākehā* colonisation under the 1970s guise of land reparation through the *Waitangi* Tribunal process. These arguments revolved around the proposition of an underlying vertical supremacy, festering through arduous procedural 'red tape', excessive bureaucracy and a continual failure to 'trickle down' benefits (Durie, 1998; Gardiner, 1996; Jackson, 1992; 1995; and Joseph et al., 2002). A brief consideration of contemporary land reparation processes in the 2003 empirical case study research is provided *(Chapters 6 - 7)*, though it was beyond the scope of this study to elaborate on the details involved.

Considering the long lasting repercussions of land individualisation on the *Māori* people-environment relationship, it is a central focus in my examination of the detraditionalisation of *ngā tikanga tūpato* in the *Māori* river community case study chapter *(Chapter 7)*.

Having emphasised the notion of supremacy in official discourse and its implications for *Māori* reflexivity, I now focus on the notions of hierarchy and re-matching under the Westminster-Keynesian system. These inevitably traverse aspects of *Aotearoa* history already mentioned, but now in a manner that highlights both the importance of Westminster-Keynesian system hierarchy and re-matching.

4.4.6 *Westminster-Keynesian system hierarchy and Māori reflexivity*

> Traditionally *Māori* groups have not been directly involved in project initiation and planning. This has been the prerogative of the large public development agencies such as Ministry of Works and Development, or Ministry of Energy. Attempts to input a *Māori* perspective, or to gain access to resources necessary to expedite input into the process, have operated under severe constraints. This is because agency decision makers, who are almost exclusively *Pākehā,* control the process and the resources necessary to project planning. These people . . . control concerns such as the project time frame, finance, expertise, information and . . . capital flows associated with large scale projects . . . A further constraint on *Māori* in the planning process is the *Pākehā* power

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[123] Resolved *Māori* claims through *Waitangi* Tribunal reports culminate in *Waitangi* tribal settlements, including the *Waikato Raupatu* settlement, 1995/ *Waikato* Settlement Act 1995 and the *Ngai Tahu* settlement, 1997/ *Ngai Tahu (Pounamu* Vesting) Act 1997.

> structure. As it currently exists the power structure would rather deal with *Pākehā* organisations and penalises *Māori* people who seek to have input into the planning process . . . *(Mahuta*, 1985: 12).

In my comparative analysis, the relative abandonment of the Treaty of *Waitangi* in the take-off and stabilisation phases brought the penetration of Westminster-Keynesian system hierarchy (Asher et al., 1987; Havemann, 1999; and Shearer, 1994). As *Mahuta* (1985) affirms, a *Pākehā* power structure was embedded over traditional *Māori* lines of authority and control (Dalley, 2004; Havemann, 1995b; 1999; *Kawharu,* 1975; Kelsey, 1990; Rumbles, 1998; Ward, 1973; Webster, 1998; and Williams et al., 1989). Ineffectively, this reversed the pre-existing hierarchical order of *Aotearoa* society.

Instead, *Pākehā* hierarchy ruled, compared to the inferior position of *Māori* - then, as now positioned at the margin or periphery of perceived central command systems (Fleras et al., 1999; *Maaka* et al., 2005; *Mahuta,* 1995; and Mulgan, 1994). As *Mahuta* (1995) further elaborates, it was this new hierarchical imbalance, which fundamentally contributed to the othering of *Māori* thereafter (Durie, 2005; Harris, 2004; and Pocock et al., 1965).

4.4.7 Westminster-Keynesian system re-matching and Māori reflexivity

> In the 1978 case, Quiltet v *Mongonui* County Council the appellant wanted to construct a shed on land that *Māori* people regarded as important ancestral land because it was the site of an old burial ground. The Tribunal ruled that as the land was no longer in *Māori* ownership, it could not be considered ancestral land. The Judge in this case considered it a 'startling proposition' that land owned by *Māoris,* be considered ancestral (Shearer, 1994: 31).

I also postulate that such marginalisation of *te ao Māori* occurred through the hegemonic process of Westminster-Keynesian system re-matching, as Shearer (1994) depicts in the above quotation. *Te ao Māori* was re-matched from a supreme viewpoint based on pre-modern thought pre-occupations (Roberts, 1996; Schick, 1996; and Simon; 2000; 2003). This put *Māori* epistemology within a past-oriented time-frame - thus, perpetuating difference/distinction

discourse (Buhrs et al., 1993; McCan et al., 1990; and Palmer, 1990). For example, re-matching was conditioned toward 'old' presumptions of *te ao Māori* (Cox, 1993; Durie, 2005; Hay et al., 1989; Jackson, 1998; Joseph et al, 2002; and McKinley, 2003)*,* as Joseph et al (2002) illustrates in the following passage:

> In *Wi Parata* v Bishop Of Wellington Prendergast C.J. erroneously held that *Māori* custom and usage did not exist because 'a phrase in a statute cannot call what is non-existent into being'. No such body of law existed . . . *Māori* rights under the Treaty of *Waitangi* and many of their *tikanga* values were thus marginalised and lay legally dormant until the Treaty of *Waitangi* Act 1975 with the establishment of the *Waitangi* Tribunal. The Tribunal resurrected the acknowledgement and accommodation of *Māori* values and *tikanga* in the legal system . . . While *Māori* values and *tikanga* have now re-entered the legal system, there is evidence that the system may not yet have the tools, or have developed a sufficiently informed approach, to dealing appropriately with those values (Joseph et al., 2002: 1, 16).

Hence, as re-matching locked *te ao Māori* within the hegemonic bounds of difference/distinction discourse, I propose that it has persistently prevented the realisation of a *Māori* location in synergistic value change (Havemann et al., 2002; and Simon, 2000; 2003).

Finally, my postulations of verticality and *Māori* reflexivity are examined from the epistemological orientations of the *Resource Management Act 1991,* focusing on the historical background of vertical hegemony and counter-hegemony from which it evolved termed 'opened up Westminster-Keynesian system verticality'.

4.4.8 *'Opened up' Westminster-Keynesian system verticality - epistemological orientations of the Resource Management Act 1991*

> *Māori* values have tended to receive little substantive consideration by decision makers at council or Environment Court level. The interpretation and definition of *Māori* ethics by these entities has produced significant case law, yet the weighting of *Māori* values

> has rarely prevented developments/resource consents from proceeding. Indeed, the success of the resource management process in influencing CO_2 emissions in the future will depend on the definition of sustainable management or sustainable development. Until the fundamental interpretation of sustainable [development] alters in favour of an indigenous, and perhaps ecological definition, meaningful *Tangata Whenua* input will remain unlikely (Shearer, 1994: 99).

> New Zealand's *Resource Management Act ('RMA')* has been praised as one of the world's most progressive pieces of environmental legislation. Along with its guiding purpose, the Act's holistic approach has attracted considerable attention . . . Around the world New Zealand is seen as a leading country in green planning . . . (Klien, 2001: 1).

> A feature of the new *RMA* mandate was the special provision for *Māori* - the indigenous people of New Zealand - in local government decision making . . . The government's efforts in this regard have drawn worldwide attention (Ericksen et al., 2003: 97).

In my comparative analysis, the *Resource Management Act 1991* arose from a backdrop of revolutionary socio-cultural and environmental reform (1970s-1980s onwards) that propelled the counter-hegemonic movement of alternatives into the forefront of hegemonic discourse (Buhrs et al., 1993; Memon, 1993; Memon et al., 2000; Milne, 1992; Ministry for the Environment, 1988a; 1988b; 1991a; 1991b; Rikys, 1999; 2004; and Van Rossem, 1995). The vertical epistemological oriented New Public Management regime of the Westminster-Keynesian system became re-thought, as conservation over growth entered the value equation of contesting discourses (in relation to conservation versus growth and growth versus conservation) - referred to here in terms of 'opened up Westminster-Keynesian system hegemony'.

Forthwith, my postulation of the reflexive processes of hegemony and counter-hegemony were two-fold. On one side, this saw the concerted drive for sustainability alongside a burgeoning interest toward the holistic and conservation oriented viewpoint of *te ao Māori,* as exemplified in the above bottom quotations (Ericksen et al., 2003; and Klien, 2001). On the other side, it also saw the retention of verticality through the official and non-official

discourse distinction, as exemplified in the top above quotation (Shearer, 1994). The remaining discussion of the section elaborates on the proposition of these underlying reflexive processes of hegemony and counter-hegemony in *Māori* adaptation to New Public Management supremacy, hierarchy and re-matching, as follows.

4.4.9   New Public Management regime supremacy and Māori reflexivity

To begin, I propose that the New Public management regime was intertwined with Westminster-Keynesian political-legal supremacy (Barton, 2002; Berke et al., 2000; Ericksen, 2003; and Palmer, 1990), as it drew forth the hard and soft law distinction of the *Pākehā*-defined legal-political order (Boast, 1989; Law Commission, 2001; Ministry for the Environment, 1991a; 1993; and Rumbles, 1998), which legitimised the dominant discourse and othered *Māori* epistemology (Crengle, 1993; Durie, (E)1995; Durie, (M)2005; Tomas, 1990; and Williams, 1997). Accordingly, I comparatively analysed *Māori* reflexivity in terms of the official and non-official discourse distinction.

Indeed, the *Resource Management Act 1991* stipulated only a permissive - as determined by one's statutory interpretation of the Act's usage of 'shall', compared to mandatory - as determined by one's statutory interpretation of the Act's usage of 'must', obligation toward non-official discourse such as the sustainability and *Māori* provisions *(Appendix 1.1)* (Law Commission, 2001; and *Resource Management Act 1991, 1994; 1993*). The soft law reproach meant that discretion weakened the statutory obligations associated with the permissive usage of 'shall' in both cases (Durie, 1995; and Williams, 1997).

Hence, I argue that this brought a political-legal leaning toward growth over conservation, despite the soft loft imperatives of counter-hegemony associated with conservation over growth (as well as conservation versus growth and growth versus conservation) *(Te Puni Kokiri,* 1993a, 1993b). In fact, although many environmental studies writers argue that the *Resource Management Act 1991* was a breakthrough in the promotion of the sustainable development paradigm (Burhs et al., 1993; Ericksen et al., 2003; and Memon et al., 1993) -

with specific mention of the emphasis on the interests of *Māori* - sustainability was not centrally embedded within it (Bennion, 2005; and Joseph et al., 2002).

4.4.10   New Public Management regime hierarchy and Māori reflexivity

Next, I propose that the New Public Management regime was also interwoven with the Westminster-Keynesian hierarchical order (Ericksen, 2003; Harris, 1996; Havemann, 1997; Ministry for the Environment, 1998a; 1998c; Nuttall et al., 1995). This has been usefully conceptualised as a two-pronged operational system of hierarchical hegemony, consisting of the 'steering bureaucracy' - referring to the central control base of supreme command and authority, and the 'rowing bureaucracy' - referring to the employment system of authoritative verticality (Havemann, 1997). Hitherto, *Pākehā* hierarchy came to the fore through a command and control system of vertical power and authority, which worked in favour of the dominant discourse. Furthermore, *Māori* reflexivity was comparatively analysed in terms of the impinging dominance of vertical hierarchy.

In congruence, many commentators on the *Resource Management Act 1991* argue about the infrastructural dominance of *Pākehā* hierarchy (Hewison, 1997; Lancaster, 2000; Nuttall et al., 1995; Sunde et al., 1999; and Tomas, 1990) as noted by Berke et al (2002) and Lancaster (2000) in the following two quotations:

> While these provisions provide considerable opportunity for local government to enter resource management partnerships with *Māori,* there are obstacles to effective implementation. First, there is skepticism, over the imprecise wording of each provision . . . How a local plan is to recognize, or account for, or have regard to a particular provision is not clear . . . Second, the *RMA Act* does not offer clear guidance for local governments on how to integrate *Māori* environmental concepts included in its provisions . . . Third . . . national government has yet to provide clear policies that give guidance about the nature of the partnership between national government and *Māori* regarding Treaty principles . . . Fourth, the inconsistencies between boundaries of the 36 tribes (or iwi), and the regional and district boundaries generate extraordinary demands on *Māori* . . . (Berke at al., 2002: 117 - 118).

> The introduction of the *Resource Management Act 1991* (RMA) required daunting radical changes in New Zealand environmental management, particularly in the planning and day-to-day business of local government, and at the interface between councils and *tangata whenua.* Nearly a decade on, many practitioners and participants in RMA processes are still daunted and disoriented (Lancaster, 2000: 1).

My comparative analysis of the other arguments on *Pākehā* hierarchy concerned the asymmetry of epistemological power,[124] resource discrepancies,[125] legal-political definitional struggles,[126] the unsureness and disparity between discourses[127] and the discourse gap and divide.[128] In *Chapter 5,* this is further examined with reference to reflexive processes of *Aotearoa* environmental performance indicator development under the *Resource Management Act 1991.*

Such reflexivity is a focal concern in this research on the environmental hierarchies *(Chapter 6)* - with regard to the vertical hierarchical order that underpins environmental performance indicator development under the *Resource Management Act 1991,* and the *Māori* community case studies *(Chapter 7)* - with regard to *Māori* reflexivity. Drawing on my articulation of the vertical and multiple sustainability models, this is conceptualised in terms of the hierarchy and multiple connection model of the study. A schema of my conceptual analysis is depicted in *Figure 4.2.*

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[124] My key references of the epistemological power asymmetry under the *Resource Management Act 1991* include: Chen et al., 1999; Ericksen et al., 2003; Hewison, 1997; Rikys, 1999; 2004; Sunde et al., 1999; *Taiepa,* 1999; and Tomas, (V)1990.

[125] My key references of the resource discrepancies under the *Resource Management Act 1991* include: Blomfield, 1997; Durie, 2005; Lancaster, 2000; *Ruru,* 1997; and Shearer, 1994.

[126] My key references of legal-political definitional struggles under the *Resource Management Act 1991* include: Bennion, 2005; Berke et al., 2000; Ericksen et al., 2003; Joseph et al., 2002; Ministry for the Environment, 1991a; 1993; Nuttall et al., 1995; and Williams, 1997.

[127] My key references of the unsureness and disparity between discourses under the *Resource Management Act 1991* include: Durie, 2005; James et al., 2002; *Matunga,* 2000; Ministry for the Environment, 1991b; 1998c; 1999a; Ramsay, 1997; and (N)Tomas, 1994.

[128] My key references of the discourse gap and divide under the *Resource Management Act 1991* include: Barnes et al., 2001; Joseph et al., 2002; Lancaster, 2000; *Matunga,* 1994; Ministry for the Environment, 1988a; 1988b; Nuttall et al., 1995; and Van Rossem, 1995.
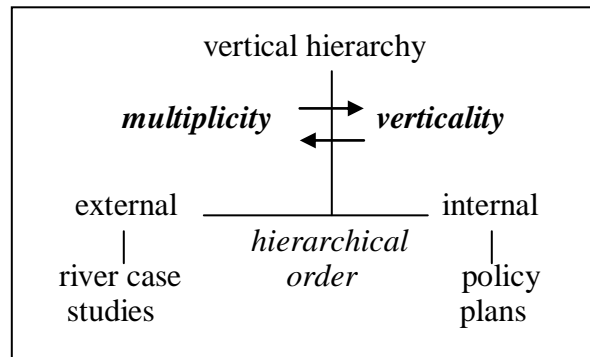
Figure 4.2   Schema of the hierarchy and multiple connection model of the study

In the above postulation of the New Public Management hierarchical order of vertical hierarchy *(Figure 4.2)*, I am focally concerned with the 'connection' between the environmental hierarchies of the study - referring to the 'internal' hierarchical locale of environmental policy and planning, and the *Māori* community case studies - referring to the 'external' hierarchical locale of *Māori* reflexivity. As prior mentioned *(Chapter 3)*, this is later theorised from the practical side of nuanced reality, through my conceptualisations of 'diverse-multi-reflexivity' and 'collective cross-tribal reflexivity' (referring to my examination of cross-tribal local river *kaitiakitanga* in the *Māori* community case studies, *Chapter 7)* and 'multi-reflexivity' and 'collective institutional reflexivity' (referring to my examination of inter-governmental institutional environmental governance in the environmental authority case studies, *Chapter 6).*

4.4.11   New Public Management regime re-matching and *Māori reflexivity*

Lastly, I propose that the New Public Management regime was additionally inter-linked with Westminster-Keynesian re-matching. Indeed, pre-modern assumptions[129] predominated, whereby *te ao Māori* were locked into a past-oriented time frame. Consequently, this perpetuated a pre-occupation with difference/distinction discourse; and most significantly, the locking out from reconciliatory processes of synergistic value change. In addition, *Māori*

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[129] My key references of pre-modern assumptions of *Māori* epistemology under the *Resource Management Act 1991* include: Gillesspie, 1998; Klein, 1999; McCan et al., 1990; Ministry for the Environment, 1998c; 1999a; and Ward, 1990.

reflexivity was comparatively analysed in terms of the penetrating authority of vertical re-matching.

Thus, in my comparative analysis of re-matching under the *Resource Management Act 1991,* difference/distinction discourse provided the mantel for the advocation of *ngā tikanga tūpato.* Despite the benefits of highlighting difference and distinction, it failed to reconcile and mobilise the contesting discourses of growth and conservation. I summarise the key tenets of this proposition in *Table 4.2.*

Table 4.2   Difference/distinction discourse under the *RMA 1991* - conceptual framework

Positive attributes of difference/distinction discourse
- establishes the legitimacy of the 'other' vis a vis the dominant order - highlights the asymmetry of power - initial politico-legal value
Negative attributes of difference/distinction discourse
- risk of caricaturing - ongoing rehearsal of difference, distinction & conflict - limited political viability - not progressive and forward moving - pre-occupation with differences/distinctions
Overall attribute of difference/distinction discourse
- fails to mobilise and reconcile

As I argue in the above conceptual analysis of difference/distinction discourse under the *Resource Management Act 1991 (Table 4.2)*, the negatives far outweigh the positives and consequently hinder a greater realisation of the reflexive potential of *ngā tikanga tūpato* at the present period of synergistic value change.

In sum, this section presented my comparative analysis on the nuanced reality of the *Resource Management Act 1991,* as nationally linked to the global correlated findings of synergy in the study under the epistemological leaning toward growth over conservation. The section focused on *Māori* adaptation to the vertical attributes of supremacy, hierarchy and re-matching, in both the Westminster-Keynesian system generally, and in the New Public Management regime more specifically.

4.5   Conclusion

In conclusion, *Chapter 4* commenced *Part 2* ('Balance of Values') of the thesis and introduced my theoretical articulation of the practice side of nuanced problem solving. In the chapter, I reported on the growth over conservation correlated finding of late-modern synergy from the search for value balance in the nuanced reality of sustainability and the *Resource Management Act 1991.* Such subtleties of nuanced reality are next compared from the search for synergistic balance in the environmental monitoring sub-field of environmental performance indicator development under the *Resource Management Act 1991 (Chapter 5).*

Thus, in *Chapter 4,* I provided original *Māori* And/Also theory-empirical/analytical research on the search for synergies between *te ao Māori/*indigenous knowledge and western scientific knowledge through my comparative analysis of the nuanced reality of sustainability and *Resource Management Act 1991.* As epistemologically linked globally and nationally, synergistic value change was emancipated by comparing *Māori*/indigenous adaptation to the vertical attributes of supremacy, hierarchy and re-matching. In the first part of the chapter, this was compared in the underpinning verticality epistemological framework of the Westphalia international order, which elucidated the subtleties of nuanced reality more globally at the world and national*/Aotearoa* levels of environmental governance and change. In the second part of the chapter, this was compared in the underpinning verticality epistemological framework of the Westminster-Keynesian system, which elucidated the subtleties of nuanced reality more nationally at the world and national*/Aotearoa* levels of environmental governance and change.

In particular, my postulations of late-modern synergy and *Māori* reflexivity brought forth the potential synergies between *te ao Māori* and western science in sustainable management and governance regimes under the *Resource Management Act 1991.* Next *(Chapter 5),* I elaborated on these propositions more specifically at the world and national*/Aotearoa* levels of environmental governance and change in the environmental monitoring sub-field of

environmental performance indicator development under the *Resource Management Act 1991.*

Chapter 5
Indicators - Epistemological Assumptions and Techniques in Environmental Monitoring

5.1 Introduction

As I emphasised in *Chapter 1, Part 2* of the thesis theorises the balance of values in the search for synergy. *Chapter 4* commenced with the search for synergistic balance in the nuanced reality of sustainability and *Resource Management Act 1991*. In *Chapter 5,* I report on my estimated correlated findings of growth and conservation from the search for the balance of values in the nuanced reality of environmental monitoring and environmental performance indicator development under the *Resource Management Act 1991*.

Chapter 1 put forward my proposition on the underpinning subtleties of late-modern synergy and *Māori* reflexivity in the environmental monitoring sub-field of national/*Aotearoa* environmental performance indicator development under the *Resource Management Act 1991*. In this chapter, the nuanced reality of synergistic value change is compared throughout the evolution of environmental monitoring and environmental performance indicator development from my *Māori* And/Also stance. I begin by locating the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum of the study at the evolutionary distinguishing point of meso late-modernity in national/*Aotearoa* environmental performance indicator development. In the rest of the chapter, I outline how the reflexive processes of late-modern synergy have evolved to the present epoch - first, at the international level of environmental monitoring and lastly, in terms of national/*Aotearoa* environmental performance indicator development.

5.2 Late-modern value continuum of *Aotearoa* environmental performance indicator development

This section locates the late-modern value continuum of national/*Aotearoa* environmental performance indicator development in the study *(5.2.1 - 5.2.5)*. Sub-sections *5.2.1 - 5.2.3* set the political-legal context of national/*Aotearoa* environmental monitoring and environmental performance indicator

development under the *Resource Management Act 1991*. In sub-sections *5.2.4 -
5.2.5*, I identify the official and non-official discourse distinction, which
underpins the dominant epistemological framework of national/*Aotearoa*
environmental performance indicator development.

5.2.1 *The epistemological significance of environmental monitoring under the Resource Management Act 1991 - contesting discourses*

> In New Zealand, requirements to monitor the environment
> are prescribed in Section 35 of the *Resource Management
> Act 1991 (RMA)* . . . Environmental monitoring involves a
> number of processes. These include: (i) generating a
> representation of the environment, (ii) evaluating the
> environmental outcomes of resource management policies
> and (iii) developing options directed towards the
> achievements of environmental policy. In each of these
> dimensions epistemological questions arise. Thus
> conceptualisations of the monitoring process became
> problematic when they are implemented . . . (Devlin, 1995:
> iii).

Devlin (1995) and many other writers on environmental studies (Astbury et al.,
1999; Bakkes, 1994; Beanland, 1998; Beanland et al., 1999; Huser, 1999; and
Ministry for the Environment, 1996; 1997; Ward, 1990; 1991) emphasise how
environmental monitoring under the *Resource Management Act 1991*, deals
with central epistemological questions - 'who', 'what', 'why' and 'how', about
definitions and applications of social reality and the environment. What Delvin
(1995) and others fail to make explicit (Bosch, 1996; Davis et al., 1997a; and
Ministry for the Environment, 1998b), however, is that these questions of
epistemology are posed from an already established vertical official
epistemological framework, which receives very little scrutiny - especially with
regard to the contesting discourses underpinning national/*Aotearoa*
environmental monitoring (Simon, 2000).

In fact, *Māori* reflexivity brings a pluralistic scope to epistemological questions
of social reality and the environment. Rather, both discourses engage in
reflexive processes of knowledge/value change that diversify the
epistemological questioning of social reality and the environment. Therefore,
my central concern is in how this reflexivity is being accommodated within the

existing dominant epistemological framework of environmental monitoring under the *Resource Management Act 1991.*

5.2.2 *Environmental monitoring and environmental performance indicator development - sustainability under the RMA 1991*

> The concept of sustainable management of the environment is now well established in New Zealand law and environmental policy. Environmental monitoring and the use of environmental indicators are vital components of that concept (Ministry for the Environment, 1996: 3).

As noted in the above quotation (Ministry for the Environment, 1996), the sustainable development paradigm was applied in environmental monitoring and environmental performance indicator development, through Section 35 *(Appendix 1.1)* of the *Resource Management Act (RMA) 1991.* Hence, it links with both the sustainability (SM) and *Māori* provisions under the Act *(Chapter 4),* as schematically portrayed in *Figure 5.1.* In my comparative analysis under Section 35 of the *Resource Management Act 1991,* the sustainable development paradigm is applied at a general conceptual level in terms of environmental monitoring (EM), and at a specific conceptual level in terms of environmental performance indicator (EPI) development *(Figure 5.1).*

```
SM provision ------ SDP ------ Māori provisions
                       ↓
   EM ------------ Sec 35 ------------- EPI
      |                               |
  general  <<< conceptual level >>> specific
```
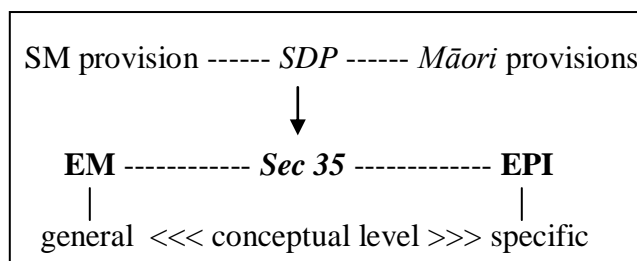
**Figure 5.1   Schema of sustainability under
Section 35 of the *RMA 1991* - EM and EPI**

Environmental monitoring and environmental performance indicator development are primarily concerned with achieving sustainability through data collection and information generation for informing environmental decision-making (Beanland et al., 1999; Davis et al., 1997b; 1997c; Huser, 1996; 1997; 1999; 2002; and Ministry for the Environment, 1996). Hence, not only does sustainability become 're-conceptualised' in environmental monitoring and environmental performance indicator development, but conversely, sustainable

environmental decision-making is also informed by environmental monitoring and environmental performance indicator development *(Figure 5.1)*.

At a very general level of data collection and information generation, as Berghan et al (2000) exemplify, environmental monitoring relates to:

> . . . the deliberate act of observation and surveillance over time with a defined purpose . . . the act of monitoring provides a mechanism to inform decision-making authorities about the consequences of actions, and changes in the environment, in order to determine effectiveness and the need for further action . . . (Berghan et al., 2000: 5).

Also, at a specific level of environmental monitoring, as the following passage illustrates (Ministry for the Environment, 1996), environmental performance indicator development pertains to:

> . . . aspects of the environment (known as parameters) that are monitored to show trends or sudden changes in a particular environmental condition. The OECD defines an environmental indicator as: a parameter, or value derived from parameters, which points to, provides information about, or describes the state of a phenomenon/environment/area, with a significance extending beyond that directly associated with a parameter value . . . (Ministry for the Environment, 1996: 4).

Altogether, I argue that environmental monitoring and environmental performance indicator development play a significant role toward achieving sustainability under the *Resource Management Act 1991*.

5.2.3 *Aotearoa environmental performance indicator development - epistemological significance*

I propose that environmental performance indicator development cuts straight to the heart of key epistemological questions between official and non-official discourse, because epistemology is the fundamental foundation from which indicators are developed. Indeed, the epistemological orientation critically influences the power to define (Beanland et al., 1999; Davis et al., 1997c; Ministry for the Environment, 2001; 2002a; 2005b; Smith 1998; and Snelder et al., 2005) - not only in terms of the categories of indicators that are selected, but more importantly in how they are put together.

In national/*Aotearoa* environmental performance indicator development, indicators (defined here as environmental parameters or measures)[130] are formulated (epistemologically) into an information framework depicting the condition/state of the environment - termed 'environmental performance indicator models' (Bakkes, 1994; Bell et al., 2003; Environment Canada, 1991; and Rump, 1996). It is here where the how, who, why and what questions of epistemology are 'really' played out, as reality is constituted through the selection of indicators and their selected make-up in environmental performance indicator models (Astbury et al., 1999; Hammond, 1995; and Huser, 1999; 2002). Thereby, I argue that environmental performance indicator development provides an overt expression of the extent to which alternatives are accommodated between discourses.

5.2.4 *The Māori provisions and informational reflexivity*

> The Ministry for the Environment . . . looks to reflect socio-cultural components through the process of environmental indicator development and appreciates that *Māori* input into this project will greatly assist in identifying gaps in environmental information . . . states a recognition of *Māori* as *tangata whenua* and Treaty partner, and the role that *Māori* play in effective resource management . . . also recognises the value of indigenous knowledge and seeks not only to incorporate *Māori* concepts, but to recognise the alternative to empirical science they provide . . . (Ministry for the Environment, 1999a: 4).

As inferred in the above quotations from public documents of the *Aotearoa* Ministry for the Environment (MfE) (1999a), environmental hierarchies were politically obliged through soft law *Māori* provisions *(Figure 5.1, Appendix 1.1)* to accommodate non-official discourse into the dominant framework of environmental performance indicator development, termed 'informational reflexivity'. The national level of *Aotearoa* environmental hierarchies (that is, the indicator division of the Ministry for the Environment) being the supreme core of vertical governance political-legally (Ministry for the Environment, 1992; 1993; 1996; 1998a; 1999; and Ministry for the Environment et al., 1996).

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[130] For further details of my summarised overview of national/*Aotearoa* environmental performance indicator definitions and criteria see *Appendix 5.1.*

Under these soft law imperatives, alternative or non/official discourse such as *te ao Māori* were incorporated into the data collection and information generation process (Beanland et al., 1999; Huser, 1999; Ministry for the Environment, 1996; 1999; and Ward, 1991). Drawing on national/*Aotearoa* environmental performance indicator discourse (Beanland et al., 1999; Huser, 1999; and Ministry for the Environment, 1996), this is diagrammatically represented by reference to the 'information pyramid' concept (*Figure 5.2).* Essentially, it encapsulates the totality of discourses, by reference to the 'total quantity of information' between them.
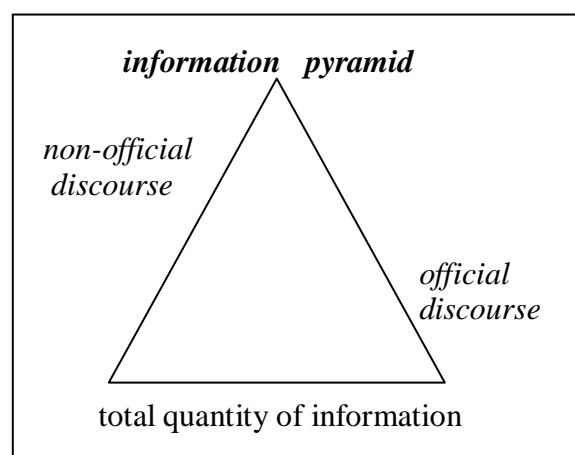
Figure 5.2   Schema of the information pyramid of contesting discourses[Note]

5.2.5 *The official and non-official discourse distinction - western scientific and cultural indicators*

In my comparative analysis, informational reflexivity was underpinned by the official and non-official discourse distinction. I postulate that this brings in an epistemological orientation toward the hegemonic authority and power of western scientific knowledge/values, as summarised in *Table 5.1.* Hitherto, the power to define rested on the hegemony of dominant vertical epistemology (Bakkes, 1994; Beanland, 1998; Rump, 1996; and Ward, 1991), with western scientific indicators predominating.

[Note] From Ministry for the Environment (1996). <u>National Environmental Indicators: Building a Framework for a Core Set.</u> Wellington, New Zealand. Copyright by Ministry for the Environment. Adapted with permission.

Table 5.1   EM and EPI official discourse - conceptual framework

core value
economic and biological determinism

major assumptions
- superiority of western scientific knowledge
- inferiority of alternatives

main techniques
- empiricism
- economic determinism
- biological determinism
- reductionism
- anthropocentrism
- mechanism

In comparison, I postulate that the counter-hegemonic epistemological orientation of the *Māori* people-environment relationship (Gardiner et al., 1998a; Havemann et al., 2002a, Ministry for the Environment, 1998c; 1999a; Stewart et al., 2004; *Tipa,* 1999; and *Tipa* et al., 2003) is marginalised, as summarised in *Table 5.2*. Thus, *te ao Māori* has a much less defining power, in the formulation of cultural[131] indicators under the *Resource Management Act 1991* (Beanland, 1998; Beanland et al., 1999; Gardiner et al., 1998a; 1998b; McCan et al., 1990; Ministry for the Environment, 1998c; 1999a; Smith, 1998; *Tuanuku* et al., 1998; and Ward et al., 1992).

Table 5.2   Non-official discourse and cultural indicators - conceptual framework[Note]

core value
- cultural and biological diversity

key features
- ancestral attachment to areas such as lands, coastal and marine areas
- low impact systems of resource management associated with conservatory stewardship
- locally based detailed traditional ecological knowledge of their areas
- dependency on high diversity of resources for self subsistence
- collective rights and responsibilities of resources and areas
- traditional institutions of governance
- traditional processes for decision-making
- traditional systems for benefit sharing

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[131]   In dominant environmental performance indicator discourse, 'cultural' is synonymous with 'public' and 'social' (Anderson, 1991; Beanland et al., 1999; Ministry for the Environment, 1999a; and Smith, (W)1998). In this research, 'cultural' refers to indigenous knowledge and values.

[Note]   From Havemann, P. & Whall, H. (2002). The Miner's Canary: Indigenous Peoples and Sustainable Development in the Commonwealth. London: Institute of Commonwealth Studies. Copyright 2002 by Havemann, P & Whall, H. Adapted with permission.

Overall, I propose that it was the hegemonic power of economic and biological determinism in official discourse, which minimised the prescribing authority of *Māori* indicators in non-official discourse under the *Resource Management Act 1991*. Having briefly located late-modern value change in synergistic processes of informational reflexivity, the remainder of the chapter presents my comparative analysis of *Māori* reflexivity and synergy in the evolution of environmental monitoring and environmental performance indicator development.

5.3 Evolution of environmental monitoring and *Māori* reflexivity

The *Māori* reflexive strategies of supremacy, hierarchy and re-matching linked to reflexive processes of synergistic value change throughout the evolution of international environmental monitoring, as conveyed in the following eight sub-sections *(5.3.1 - 5.3.8)*. Sub-section *5.3.1* locates my nuanced reality theorising of environmental monitoring in the revolutionary terms of epochal change. I then introduce my comparative analysis of the evolution of environmental monitoring *(5.3.2 - 5.3.5)*. Lastly, I compare *Māori* adaptation to supremacy, hierarchy and re-matching at the international level of environmental monitoring *(5.3.6 - 5.3.8)*.

I begin with an introduction to the epistemological significance of environmental monitoring periodically focusing on the reflexive reconstruction of self-identity with specific regard to *Māori* reflexivity. This is done to highlight the revolutionary nature of epochal change in my comparative analysis of *Māori* reflexivity and synergy.

5.3.1 Risk society - Māori reflexivity and the reflexive self

> Natural disasters and catastrophes - fire, famine, earthquakes, cyclones and floods - were typical in pre-modern and modern times. In late modern times this list is augmented by manufactured hazards, the consequences of human activities associated with modernisation. In the age of risk, environmental degradation has already reached catastrophic proportions. The insurance industry analyses in actuarial terms the costs of catastrophic hazards, defining catastrophes as low-probability events capable of inflicting

> extremely severe damage to, for instance, human health, bio-diversity and the economy. Major technological risks include hazards from chemical and nuclear pollution, pharmaceutical and medical innovations and GMOs. The hazardous 'side effects' of the modernisation of modernity include global warming from greenhouse gases, ozone depletion from CFC's . . . Each manufactured risk stems from our risk-taking with science and technology to overcome natural hazards and overwhelm natural limitations on economic growth and our quality of life. In the age of manufactured risk, humankind now deploys an arsenal of weapons to (try to) create certainty, to combat the adverse material consequences of modernity, and to overcome any curbs on growth, comfort and wealth accumulation (Havemann, 2002a: 7).

As captured by Havemann (2002a) in the above quotation, risk society theorising of 'risk' and the reflexive self *(Chapter 2)* usefully articulates the And/Also epistemological backdrop of the official and non-official discourse distinction in the revolutionary terms of epochal change (Beck, 1992; 2000; Giddens, 1996; and Havemann, 2002a). It is briefly utilised here for the research purpose of locating my And/Also theorising of *Māori* reflexivity and at the current epoch of synergistic value change.

In terms of risk society theory, *Māori* reflexivity is first located by how the late-modern reflexive self becomes confronted by human-caused or 'manufactured' risk - for example, the ozone layer and global warming. As illustrated by Havemann (2002a) in the above passage, such environmental hazards continuously impact on one's reflexive adaptation to change. Hence, manufactured risk is all-encompassing. This is distinguished from the human adaptation to natural disasters and catastrophes or 'natural' risk - for example, earthquakes, cyclones and floods. In comparison, such naturally occurring environmental disasters are spontaneous and of lesser duration. Rather, *Māori* reflexivity now confronts the all-embracing environmental effects of manufactured risk at the present era of meso late-modernity.

One's reflexive self-awareness of manufactured risk brings a focal concern with the human-creation of risk. Risk society theorists argue that the late-modern self becomes pre-occupied with the human adaptation to risk, termed 'risk-taking' (Beck, 1999; and Giddens, 1996). Significantly, in the risk-filled circumstances

of manufactured risk, potential risks are now most pressing in reflexive processes of human endeavour.

The late-modern act of risk-taking is at the crux of risk society theorising of opened up Westminster-Keynesian system verticality, as it brings forth the central epistemological questions of social reality and environment about what constitutes sustainability (Beck, 1992; 2000; Giddens, 1996; and Rifkin, 2000). Innermost, the contesting discourses of growth and conservation come to the forefront of the late-modern reflexive re-construction of identity. It is the growing concern of environmental conservation in late-modern risk-taking, which has seen much interest toward the potential contribution of alternatives such as *ngā tikanga tūpato.*

However, one is constantly bombarded by dominant vertical discourse on the human-creation of risk, as transcended through hegemonic western scientific-based risk-taking over time (Beck, 1992; 2000; Giddens, 1996; and Havemann, 2002a). In the relations of production (modern era), 'old' risk-taking drove in a modern growth impetus stemmed on the hegemony of western scientific knowledge. This is compounded in 'new' risk taking of the relations of definition (late-modern era), which drives in late-modern hyper-capitalism, based on the intensified hegemony of the bio-technology and information technology revolutions.

As exemplified by Havemann (2002a) in the above commentary, such hegemony becomes imprinted at one's reflexive self-confrontation of manufactured risk in meso late-modernity. Hence, *Māori* reflexivity and synergy are located at both the convergence and divergence of contesting discourses that confront the reflexive self in late-modern risk-taking.

As transcended from the above high abstracted evidence macro-theoretically, in the prior and upcoming meso empirical evidence I confirm that the reflexive potential of *ngā tikanga tūpato* in conservation over growth and conservation versus growth was outweighed by the prevailing dominance of materialist growth in terms of growth over conservation and growth versus conservation.

Drawing on these meso (as linked to the macro) correlated findings of growth and conservation, I next deliberate on how environmental monitoring has evolved to the late-modern epoch from the 1970s breakdown of the relations of production, forwards.

5.3.2 *The World III model - dominant environmental monitoring discourse*

> In 1972, a report was published by a mysterious club nobody had heard of, which shocked the world - a report about the forthcoming collapse of life on earth, not written by some sectarian doomsday prophet but by scientists of high repute, working with the new device of modernity, the computer. 'Limits to Growth', the report was called . . . was based on a so-called simulation model, a mathematical representation of the main variables and their dynamic interactions known as the WORLD III model. Some of the key features of these dynamics are feedback loops, which show that an intervention in one part of a system has unexpected effects on other variables of that system (Dieren, 1995: 1 - 2).

As Dieren (1995) suggests in the above quotation, it was through mathematical world-status calculations, termed the 'World III model', in the 'Limits to Growth' report (Meadows et al., 1972) that environmental monitoring surfaced during the 1970s (Bossel, 1994; Casti, 1989; Dieren, 1995; and Meadows et al., 1972; 1992; 2004;). The World III model put forward techno-empirical data about the state of the environment and prospects for growth using computer generated scenarios of environmental change (Bailey, 1991). Drawing from simulations on the potential capacity of nature, predications for growth were estimated against future environmental depletion and degradation. Such mathematical technology revolutionised the use of computer-simulated calculations over human or social constructions of the environment.

Hereby, I postulate that the drive on economic and biological determinism became grounded in the emergence of dominant environmental monitoring discourse from this evolutionary time point onwards, as follows.

5.3.3 *Technological authoritarianism and specialisation*

Models and simulations have always been an essential part of the human experience . . . The model worlds of mythology, legends, and religions, their characters, and the mental simulations they allow, have guided the behaviour of generations in all cultures. As scientists identify generalizable principles and processes, they construct models which are used to investigate and simulate new possibilities which lead to new technologies and opportunities . . . except that the mental model is translated into a computer model . . . The main advantage is that the computer can track the multitude of implications of complex relationships and their dynamic consequences much more reliably than the human mind . . . The fact that computers can process quickly and precisely any mathematical or logical formulation in arbitrary combinations widened the applicability of modelling and simulation to anything - in any form - that can be formalized and made computable. This development led to new possibilities in almost all domains of human experience . . . (Bossel, 1994: 1 - 2).

As Bossel (1994) illustrates in the above quotation, mathematical simulated constructions of reality or computer generated scenarios of environmental change gained much authority and prominence thereafter (Bailey, 1991; Bell, 2003; Bergh, 1996; Boumans, 2005; Casti, 1989; Hecht, 2005; Lenihan et al., 1978; 1979; and Starfield et al., 1990). With the mathematical takeover of the World III model, I argue that technological authoritarianism reigned. In my comparative analysis, the essential components of technological authoritarianism in dominant environmental monitoring discourse are briefly summarised in *Table 5.3.*

Table 5.3   Technological authoritarianism and dominant environmental monitoring discourse - conceptual framework

key attribute
computer generated scenarios of environmental change
main features
- numerical calculations and equations - macro-categorisations - segmentation or compartmentalisation - replication - correlations, variables, coefficients and parameters - mathematical values and numerical inter-relationships - mathematical data analysis and programming

In particular, I postulate that it was the specialised nature of mathematical simulations of reality, termed 'specialisation', which perpetuates the hegemonic power of technological authoritarianism. As the World III model was pitched at a techno-empirical level, much of the emerging debate became confined to the scientific community (Bailey, 1991; Dieren, 1995; Henderson, 1991; 1996; Ho, 1998; 2000; Meadows et al, 2004; and Rogers-Hayden, 2004). Consequently, most scientific writers focused on the 'mathematical genius' of the World III model, as follows:

> When a model has reached the formal perfection of World III and when so much effort and talent have gone into presenting its methodology in intelligible detail, its conclusions cannot be dismissed without resorting to similar methods and raising new questions to be answered by new models (Bailey, 1991: 177 - 178).

> Although thousands of scientists have devoted their efforts to the question of how reliable WORLD III was and whether it is even at all possible to forecast the future in this manner, "Limits" has, in our view, come through all the criticism untarnished . . . because nobody has yet really succeeded in finding fault with the main calculations and the underlying hypothesis (Dieren, 1995: 2).

Most importantly, as affirmed by Bailey (1991) and Dieren (1995) in the above quotations, the evolving western scientific argument revolved around the mathematical analysis of techno-empiricism. In my comparative analysis, this limited the field of engagement to specialised techno-empirical experts, bent on the conceptual lens of economic and biological determinism (Henderson, 1996; McKinley, 2003; and Rifkin, 1998). Hitherto, I argue that specialisation enhanced the domineering hegemony of technological authoritarianism in dominant environmental monitoring discourse.

5.3.4 Environmental monitoring and non-official discourse - socio-cultural and biological diversity

> The worldwide outpouring of concern for the environment and biodiversity expressed at the UN Earth Summit in 1992 has coalesced in many ways with movements for cultural diversity, social diversity, social justice, the rights of poor

and indigenous peoples, women, and all those marginalized by economism. Because indigenous peoples developed cultures and coevolved with other species in specific ecosystems, an understanding of the inseparability of biodiversity and cultural diversity has been able to emerge. Destroying an ecosystem means destroying the habitats of not only indigenous peoples but all other unique and diverse species. Such lessons are slowly being absorbed by politicians, developers and ecological economists . . . Particularly on issues of sustainable development, 'first nations' Aboriginal land claims, such as those now being adjudicated in Canada, Australia, and New Zealand, are also based on the legitimate claim that indigenous peoples have been stewards and wise custodians of these ancestral lands - maintaining and enhancing their bio-diversity . . . (Henderson, 1996: 31 - 32, 185).

In comparison, I postulate that alternative epistemology such as *te ao Māori/*IK became marginalised to the periphery of opened up Westminster-Keynesian system verticality (Agrawal, 1995; Havemann, 2002a; Henderson, 1996; and Mead, 1994; 1996). Contrastingly, non-official environmental monitoring discourse pertains to the non-technical or 'lay' perspectives of reality/environment in the experiential or social interactive side of the human-environment relationship (Henare, 1988; Kawagley, 1995; Roberts et al., 1995; 1999; Simon, 2000; Walker, 1987; 1990; and Warren et al., 1995).

More specifically, much interest circulates on the vital inter-connection between the socio-cultural and biological dimensions of sustainable environmental use (Howitt, 2001; Oviedo et al., 2000; Roberts, 1996; and Tropser, 1998), with particular regard to *Māori/*indigenous peoples reflexive adaptation to change, termed 'socio-cultural and biological diversity' (Havemann, 2002a; Henderson, 1996; Mead, 1997; Mead et al., 1995; and *Te Puni Kokiri,* 1994). In my comparative analysis, burgeoning concern is placed on the intimate and enduring features of the *Māori/*indigenous people-environment relationship, as an exemplar of the crucial link between socio-cultural and biological diversity (Bebbington, 1993; Havemann, 2002a; Mead, 1997; Teddy, 2003; *Te Puni Kokiri,* 1994; Tisdell, 1999; and Urich, 1995). Typically, Henderson's (1996) above commentary highlights how the socio-cultural diversity of *Māori/*indigenous people's co-existence with distinct ecosystems enriches bio-diversity; that being, a sustained inter-relationship of environmental use and

preservation (Howitt, 2001; Oviedo et al., 2000; Roberts, 1996; and Wright et al., 1995). Therefore, I argue that it is the ecological specificity of the *Māori/*indigenous people-environment relationship that hold a special uniqueness in non-official discourse on socio-cultural and biological diversity.

5.3.5 *Soft law and Māori/indigenous reflexivity - intrinsic value versus economic and biological determinism*

> Each Contracting party shall, as far as possible and as appropriate: Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices (Convention on Biological Diversity, 1994; Article 8(j)).

In my comparative analysis, the 1990s soft law imperatives of vertical governance enhance the international profile of socio-cultural and biological diversity at the global level of environmental monitoring. As relayed in the above passage from Article 8(j) of the 1994 Convention on Biological Diversity, soft law obligations promote *Māori/*indigenous reflexive strategies, in order to preserve socio-cultural and biological diversity. Overall, these legislative references to indigenous knowledge and values provide an important global political-legal platform that marks the unique contribution of *Māori/*indigenous reflexivity in non-official environmental monitoring discourse on socio-cultural and biological diversity.

Nevertheless, I argue that the impinging hegemony of economic and biological determinism hinders the greater realisation of socio-cultural and biological diversity. As reiterated by Havemann et al (2002) and Mead (1996) in the following quotations, hegemonic growth undermines intrinsic or aesthetic value; hence, dismantling the essential epistemological foundation of socio-cultural and biological diversity.

> Biological and cultural diversity are not discrete and separable 'goods'; they are synergistic 'goods', meaning

the whole is greater than the sum of the parts. Indigenous peoples are intrinsic to biological diversity and vice versa and from this synergy all of humankind benefits through development, which is sustainable. There are a variety of categories of argument for sustaining such diversity . . . Aesthetic - arguments that biological and cultural diversity have intrinsic value that is or ought not to be commodified (Havemann et al., 2002: 11).

. . . the direction that intellectual property rights and biotechnology is taking us . . . is not only one that is systematically alienating our traditional resources, it is also threatening our livelihoods . . . it is imposing on us a value system that is absolutely contrary to Indigenous Pacific world views, and beliefs in the integrity of nature and concepts of what is sacred and what is profane. It also places Pacific Indigenous peoples in a competitive framework where we fear that if we don't take out a patent first, someone else will (Mead, 1996: 7).

Therefore, I postulate that growth versus intrinsic value was at the heart of the epistemological struggle to actualise socio-cultural and biological diversity in environmental monitoring non-official discourse.

Consequently, growth - referring to 'intellectual property' - cross-cuts intrinsic value in much non-official environmental monitoring discourse on socio-cultural and biological diversity (Garrity, 1996; Jones, 1996; McNeill, 1995; and Mutu, 2000). Significantly, intrinsic value is commodified through ones reference to the growth-oriented term of 'property'. This is commonly seen in soft law legislation regarding the political-legal provision of socio-cultural and biological diversity (Daes, 1993; Frankel et al., 1998; Mead, 1997; Mutu, 2000; and Posey et al., 1996), as illustrated in the following passage:

We declare that Indigenous peoples of the world have the right to self determination; and in exercising that right must be recognised as the exclusive owners of their cultural and intellectual property. Acknowledge that Indigenous peoples have a commonality of experiences relating to the exploitation of their cultural and intellectual property (1993 *Mataatua* Declaration and 1992 Kari-Oca Charter).

Thus, one got caught in the competitive epistemological framework of growth, when using intellectual property terminology to advocate intrinsic value.

Several other factors hold back a greater awareness of the reflexive potential of socio-cultural and biological diversity. First, pre-modern thought prevents a better recognition of the innovative skills being employed by *Māori/*indigenous peoples in sustainable management practices (McCan et al., 1990; Patterson, 1992; 1994; 2000; Warren et al., 1995; and Yoon, 1986). Second, narrowly confined analyses like single-discipline works on sustainable agricultural practices and traditional forms of governance (Agrawal, 1995; Friend, 1997; Oviedo et al., 2000; and Tropser, 1998), ignore the multi-dimensional context of holistic and traditional ecosystem relationships (Havemann et al., 2002; and Simon 2004; 2004b). Lastly, *Māori/*indigenous people's state-encompassed location is frequently overlooked (Havemann, 2000b; Roberts et al., 1995; 1999; and Wright et al., 1995), thus, inhibiting a better realisation of *Māori/*indigenous adaptation to the reflexive processes of late-modern risk-taking (Maybury-Lewis, 1997; Perry, 1996; and Warren et al., 1995).

To review, my comparison of the official and non-official discourse distinction underpins international environmental monitoring at the advent of opened up Westminster-Keynesian system verticality. This is now further examined, focusing on the *Māori/*indigenous reflexive strategies of supremacy, hierarchy and re-matching in the Westphalia international order.

5.3.6   *International environmental monitoring and supremacy*

> When the National Accounts were being systematised in the 1940s, environmental issues had a low perceived importance, and the accounting structure adopted simply ignored environmental issues . . . The National Accounts have now matured . . . It is frankly inconceivable that national strategies for sustainable development will cut any ice economically unless they are integrally related to the national accounting system . . . (Dieren, 1995: 61).

> In economic debate, no belief is more widely shared than the idea that economic growth is the central determinant of national progress. Political candidates from all parties promise to deliver this. Gross Domestic Product (GDP) per person, the 'headline' indicator of economic growth . . . Economists may disagree on many things, but they rarely, if ever, dispute the sovereignty of GDP as a measure of progress . . . (Maddison, 1995: 119).

As highlighted by Dieren (1995) and Maddison (1995) in the above quotations, economic determinism holds supremacy in the emergence of dominant international environmental monitoring discourse, through the world financial system of the Westphalia international order, that is, the Bretton Woods institutions. In my comparative analysis, economic development fosters within the accounting structure of the Bretton Woods institutions, termed the 'National Accounts System,' is based on two main economic measures of growth, the 'Gross National Product' and its derivative, the 'Gross Domestic Product' (Bailey, 1991; Dieren, 1995; Henderson, 1996; Todaro, 1996; and Sen, 1998). Through the supreme usage of such economic currency, growth takes on the hegemonic guise of progress, whereby the depleting natural resources are measured on the basis of positive growth or income (Anderson, 1991; Bailey, 1991; Havemann, 2002b; Hecht, 2005; Ho, 1998; 2000; Lenihan et al., 1978; 1979; and Rifkin, 2000).

In my comparative analysis, much counter-hegemonic effort aims to dismantle the supremacy of Gross National Product and Gross Domestic Product, with the downfall of the relations of production (Sen, 1998; Serageldin, 1995; Serageldin et al., 1994; and World Bank, 1992). The focal concern is the prevailing impetus on growth over conservation (Bell et al., 2003; Bergh, 1996; Dieren, 1995; and Henderson, 1991; 1996), as Dieren (1995) elaborates in the following quotation:

> Ever since the Club of Rome published Limits to Growth, we have pleaded for information systems on the world economy that produce correct data, proper figures, and honest predictions. Growth, as we have defined it, is the expansionist activity of ever more production, activities which are formally measured as the gross national product (GNP), the outcome of the accounts. However, economic growth in the formal definition of welfare theory is the reduction of scarcity. Hence, if production is creating scarcity rather than reducing it, economic growth is negative. Over time, many economists have pointed at the risk for the future of the world if indeed the use of natural resources is not accounted for as a loss, but on the contrary, as income. Yet, in today's practice: consumption, abuse, and even depletion of natural resources - the very basis of life - is formally registered as growth and income (Dieren, 1995; ix - x).

However, I argue that economic determinism became rooted through the supreme usage of vertical technological authoritarianism and specialisation. This enables an authoritative expression of hegemonic growth, by the incorporation of specialised accounting techniques and methods, as deliberated in the next two passages (Organisation for Economic Co-operation and Development (OECD), 1991; and Rump, 1996):

> Criteria For Indicator Selection . . . Analytical soundness . . . An environmental indicator should be well founded in technical and scientific terms; be based on international standards and international consensus about its validity; lend itself to economic models, forecasting and information systems . . . (OECD, 1991: 8).

> Selection Criteria . . . Scientific Validity: the indicator should be technically and theoretically sound, consistent with scientific knowledge and understanding, and its significance defensible; and there should be wide consensus among credible experts that the indicator is valid . . . (Rump, 1996: 80).

As techno-specialist literature is the yardstick for 'measuring' economic growth, I postulate that economic determinism dominates international environmental monitoring discourse (Anderson, 1991; Bailey, 1991; Bakkes, 1994; Bell et al., 2003; Bergh, 1996; and OECD, 1991; 1994).

5.3.7 *Evolutionary stages of supremacy in international environmental monitoring - benchmarking and consolidation*

> After a burst of activity in the 1970s followed by a lull in the 1980s, rapid progress is again being made in developing environmental indicators in research institutes, and by governments and international organisations (Bakkes, 1994: 53). Similar to several countries, Canada has pursued the development of environmental indicators since the early 1970s. An early attempt in 1972, for example, proposed the development of a single index of environmental quality based on indicators within four environmental quality indices for air, water, land, and a miscellaneous category (Inhaler, 1972). However, this proposal, due to questions related to methodology, data, and utility, was never fully developed or released on a regular basis (Rump, 1996: 89).

In my comparative analysis, the supreme authority of technological authoritarianism and specialisation is built in at two main evolutionary stages of dominant international environmental monitoring discourse (Bailey, 1991; Bakkes, 1994; Environment Canada, 1991; Hodge, 1995; and Maddison, 1995), termed 'techno-empirical benchmarking' (1970-1990) and 'techno-empirical consolidation' (1990 onwards). As depicted in the above commentaries (Bakkes, 1994; and Rump, 1996), the former refers to the impregnation of vertical supremacy (Bakkes, 1994; Henderson, 1991; 1996; Hodge, 1995; and World Bank, 1992), whereas the latter refers to the stabilisation of vertical hegemony (Bennett et al., 1999; Environment Canada, 1995; 1996; Maddison, 1995; and Rump, 1996). These periodic stages are further examined in the evolution of dominant national environmental monitoring discourse, near the end of the chapter.

5.3.8 Hierarchy and re-matching in the Bretton Woods institutions

> The Milestone System of National Accounts, 1993, published in February 1994, reflects the official rethinking of its sponsoring organizations, the World Bank, the IMF, the OECD, the European Commission, and the United Nations Statistical Division . . . The System of National Accounts, 1993 still emphasizes market-derived data with highly imperfect pricing, translated into money coefficents that undervalue environmental resources and obscure the full dimensions of "defensive" expenditures (Henderson, 1996: 227).

Taken together, I postulate that technological authoritarianism and specialisation holds an authoritative power in dominant international environmental monitoring discourse through the hierarchical structure and re-matching strategies of the Bretton Woods institutions (Bell et al., 2003; Bowmans, 2005; Dieren, 1995; Hodge, 2003; and Fitzmaurice et al., 2003). As illustrated by Henderson (1996) in the above quotation, a specialised expert sector[132] employs re-matching under the vertical guise of techno-empirical jargon.

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[132] In this study, I argue that specialisation is enacted by specialised economists and scientists of the Bretton Woods institutions; including techno-empirical experts of the World Bank, International Monetary Fund and related organisations like the United Nations (Statistics Division), United Nations Environment Program and United Nations Economic, Scientific, and Cultural Organisation. For further details of my readings on the Bretton Woods institutions see *Chapter 4.*

In my comparative analysis, economic determinism is interwoven with biological determinism. This saw a concerted impetus on eco-empirical simulation models including the 'pressure-state-response' model (Hodge, 2003; Jorgensen et al., 2005; and Rump, 1996) or the 'amoeba matrix' (Munawar, 1995; and Reid, 1993), simulated indicator models like the national indicator model framework (Prescott-Allen, 2001), and techno-empirical models based on western scientific knowledge and National Accounting System criteria (Hetch, 2005; OECD, 1991; 1994; Pauly, 1996; and Starfield et al., 1990).

Although the Bretton Woods institutions hierarchical and re-matching efforts aim to preserve a 'green' approach to sustainability, I argue that economic and biological determinism rules. With a specialised expert hierarchy in tow, re-matching appears confined to a superficial level. In my comparative analysis, this is seen in the vertical-oriented usage of 'green' economic jargon - notably the 'Environmentally Adjusted Net Domestic Product' and related derivatives (Dieren, 1995; OECD, 1991; 1994; and World Bank, 1992), as Henderson (1996) further explains in the following passage:

> Such tortured definitions still beg a host of questions about such single indexes: how will the public be told about such assumptions underlying EDP, or how economists and bureaucrats weighted all of these factors? . . . the paradigm problems concern the linear, input-output models of economics and their compartmentalizing of highly interactive circular economic processes in arbitrary boxes and boundaries (Henderson, 1996: 228).

The vertical re-matching of green National Accounting System currency culminates in the 1993 publication of the 'System for Integrated Environmental and Economic Accounting Handbook' (Dieren, 1995; and Henderson, 1996). In counter-response, many writers on environmental studies emphasise how it is underpinned by a pervading vertical hierarchy (Bailey, 1991; Kuik et al., 1991; Maddison, 1995; OECD, 1991; 1994; Serageldin, 1995; and Serageldin et al., 1994), as Dieren (1995) exemplifies in the following passage:

> In the last ten years, the international community has joined forces to estimate environmental values within the framework of national accounts. The results of these efforts are reflected in . . . the UN . . . (SEEA) . . . These efforts,

however, fall far short of what is required for integrating environmental values into the . . . (SNA). To bring the environment into the SNA and into decision-making processes requires more than a few workshops and publications. Despite the slowly growing number of publications on the subject, there is a lack of comprehensible and accessible information for the public . . . Most publications are highly technical, with no explanation of the basic rationale for reforming the SNA . . . (Dieren, 1995: 289 - 90).

Altogether, I argue that alternative epistemology became re-matched to the margin of specialised techno-empirical discourse (Havemann, 2002a; Roberts, 1996; and Rogers-Hayden, 2004). This is a focal concern in the formulation and implementation of specialist indicators (Henderson, 1991; 1996; Prescott-Allen, 2001; Serageldin, 1995; Serageldin et al., 1994; and World Bank, 1992) like the Human Development Index and Framework of Indicators for Sustainable Development (Conway et al., 1999; Dieren, 1995; Hecht, 2005; Kuik et al., 1991; Hodge, 2003; Mikesell, 1994; OECD, 1991; 1994; and Polak, 1999), as Henderson (1996) points out in the proceeding quotations:

> The Wealth of Nations: A "Greener" Approach Turns List Upside Down . . . The World Bank's September 1995 release of its new Wealth Accounting System dealt another death blow to the now increasingly discredited GNP. The World Bank's new index includes four kinds of assets as the real wealth of nations: (1) Natural Capital . . . (2) Natural Resources . . . (3) Human Resources . . . (4) Social Capital . . . (Henderson, 1996: 224).

> Some developing countries see human rights and other social and environmental indicators as leading to another set of conditionalities that the World Bank, the IMF, and Northern bankers could add to their loans - increasing the pain of structural adjustments of their economies (Henderson, 1996: 226).

Thus, I postulate that just a surface integration of socio-cultural indicators is evident (Anderson, 1991; Bakkes, 1994; Havemann et al., 2002; Hodge, 1995; Kuik et al., 1991; and Moffatt, 1996) within the push to incorporate alternatives (Bell et al., 2003; Bergh, 1996; Environment Canada, 1991; 1995; 1996; Friend, 1997; Hammond, 1995; Hecht, 2005; Linzey, 1995; and Kirton et al., 2004).

To summarise, I have presented my comparative analysis of the nuanced reality of international environmental monitoring with respect to the correlated findings of potential synergy under the epistemological leaning toward growth over conservation. Overall, it focused on the vertical attributes of supremacy, hierarchy and re-matching in *Māori/*indigenous adaptation at the world environmental governance and change level of the Westphalia international order and Bretton Woods institutions.

5.4 Evolution of national/*Aotearoa* environmental performance indicator development and *Māori* reflexivity

The following seven sub-sections *(5.4.1 - 5.4.7)* present my comparative analysis of the nuanced reality of *Aotearoa* environmental performance indicator development and *Māori* reflexivity. The first part identifies *Māori* reflexive strategies of Westminster-Keynesian supremacy, hierarchy and re-matching *(5.4.1 - 5.4.4)*. In the remainder, I identify *Māori* adaptation to the hegemonic verticality of dominant western scientific indicators of water *(5.4.5 - 5.4.7)*.

5.4.1 *Westminster-Keynesian supremacy - benchmarking and consolidation*

> Late in 1997, the Ministry for the Environment proposed to establish a *Māori* Advisory Group . . . The group was set the following tasks: 1. define the concept of a *Māori* environmental performance indicator (MEPI) 2. develop a framework(s) within which MEPIs currently and might operate . . . 3. develop a set of generic *Māori* environmental performance indicators . . . On the question of generic MEPIs, the panel had the most difficulty. Fundamentally, the methodology employed by the Ministry for the Environment is in conflict with the methodology that *Māori* communities (and this panel) would employ to define MEPIs. It is the view of the panel that generic (and specific) MEPIs must be defined by the communities within which those MEPIs are designed to operate. The panel's approach is to commence at the community level first. In contrast, the Ministry's goal of defining generic MEPIs (and EPIs generally) would tend to suggest a 'top down' approach where nationally defined EPIs are imposed upon local contexts (Ministry for the Environment, 1999a).

Since the 1990s, the birth of *Aotearoa* environmental performance indicator development, I argue that *Māori* indicators, termed '*Māori* Environmental Performance Indicators' (Ministry for the Environment, 1998c; 1999a) have remained at the fringe of western scientific indicators or dominant environmental performance indicator development discourse (Goldberg, 1998; Ministry for the Environment, 1997; 1998b; 1998c; 1999a; 1999b; Park, 1998; and Snelder et al., 2005). In my comparative analysis, this can be traced at two evolutionary stages of Westminster-Keynesian supremacy - referring to the national periodic time points of *Aotearoa* environmental performance indicator development benchmarking (1990 - 1998) and consolidation (1998 onwards) (Beanland et al., 1999; Davis et al., 1997c; Gardiner et al., 1998a; 1998b; Huser, 1996; 1997; Ministry for the Environment, 2005a; 2005b; and Ward, 1991).

Most critically, as highlighted in the above passage (Ministry for the Environment, 1999a), the formulation of *Māori* indicators only began from the consolidation period, whereby dominant environmental performance indicator development discourse had previously been benchmarked. Thereby, as the above commentary further exudes, I argue that *Māori* indicators were doomed from the evolutionary start point of national/*Aotearoa* environmental performance indicator development, which was already steeped in the supreme vertical hegemony of western scientific knowledge.

5.4.2   *Socio-cultural and infra-structural inadequacies of opened up epistemology in late-modern transitory change*

I propose that an extreme stronghold of vertical supremacy took hold with the initial locking out of *Māori* reflexivity. In my comparative analysis, for example, the preliminary benchmarking of western scientific indicators was drawn from dominant international monitoring discourse (Beanland et al., 1999; Davis et al., 1997a; 1997b; 1997c; Huser, 1996; 1997; Ministry for the Environment, 1988b; 1996; and Ward et al., 1992; 1997). Canadian, Organisation of Economic and Co-operative Development (OECD) and United Nations' (UN) works on the pressure-state-response model (Environment Canada, 1995; 1996; OECD, 1991; 1994; and Hecht, 2005), 'the eco-system approach' (Jorgensen et al., 2005; Munawar, 1995; and Reid, 1993), EM

indicator definitions and criteria (Kuik et al., 1991; and Prescott-Allen, 2001) and international environmental monitoring simulation models (Bossel, 1994; Maddison, 1995; and Starfield et al., 1990) predominate, as illustrated in the following two passages (Goldberg, 1998; and Ward, 1990):

> The International Energy Agency publishes time series of "key indicators" for all the OECD countries (IEA, 1988) . . . Those applicable to New Zealand are as follows: The single numbers are energy production, net imports, net oil imports, total primary energy requirements (TPER), GDP, and population . . . (Goldberg, 1998: 7).

> Dickenson (1988) considers that since New Zealand is a relatively small country, it may have to settle for a number of specialised lower cost systems of information with only summary information being bought together into a co-ordinated set of statistics prior to any identification of environmental indicators. He suggests a simple conceptual framework for environmental information based on the work of Atony Friend in Canada . . . The environmental process/stress-response framework was considered a suitable starting point for our New Zealand study in 1989 since it provided the basis for several of the other frameworks . . . (Ward, 1990: 23).

More specifically, a non-*Māori* viewpoint of *te ao Māori* came to the fore (McCan et al., 1990; Ministry for the Environment, 1999a; Ward, 1990; 1991; and Ward et al., 1992; 1997). In my comparative analysis, this perpetuated the caricaturing of *te ao Māori* built on pre-modern thought pre-occupations, as exemplified in the proceeding commentaries (McCan et al., 1990; and Ward, 1990):

> . . . when *Māori* speak of the water, soil, forests or wildlife, they often speak of them in conjunction with *Papatuanuku, Rakinui, Tane, Tawhirimatea,* or *Takaroa.* A closer examination of the reasons for this provides an insight into the *Māori* perception of the natural world. Although there are tribal variations, the basics are the same throughout New Zealand (McCan et al., 1990: 16).

> *Māori* people value all aspects of the natural world with which they are kinsfolk. All forms of nature are sacred to different degrees and must be treated with respect. The *tangata whenua* possessed intimate knowledge of those

resources that were needed for survival . . . (Ward, 1990: 10).

Having established my postulations on late-modern socio-cultural and infra-structural inadequacies of opened up Westminster-Keynesian system verticality through the supremacy of vertical national/*Aotearoa* environmental performance indicator discourse, I now examine how *Māori* reflexivity adapted to the infiltrating authoritative power of Westminster-Keynesian hierarchy and re-matching processes. Such reflexivity is comparatively analysed in terms of the contesting discourses of cross-cutting verticality and multiplicity, drawing on my articulation of the hierarchy and multiple connection model in *Chapter 4.*

5.4.3 *Westminster-Keynesian hierarchical power - cross-cutting verticality and multiplicity*

> The 'late' establishment of the *Māori* Environmental Management Group (MEMG), well after the ground process of information collection for the various strands was under way . . . (Gardiner et al., 1998a: 4).
>
> The EPI programme and *Māori* . . . The Ministry has developed a 'three-tier' approach to the *Māori* input to the EPI programme. This approach is as follows: an 'umbrella' discussion group . . . 'strand by strand' contracts . . . a *Māori* ecosystem case study . . . It must be noted that this approach was developed by the Ministry . . . (Ministry for the Environment, 1998c: 15).

As emphasised in the above commentaries (Gardiner et al., 1998a; and Ministry for the Environment, 1998c), I postulate that *Māori* reflexivity initially adapted to the embedded hierarchical power of Westminster-Keynesian verticality at the consolidated period of *Aotearoa* environmental performance indicator development (Gardiner et al., 1998a; 1998b; Ministry for the Environment, 1998c; 1999a; 1999b; and *Tuanuku* et al., 1998). In my comparative analysis, reflexive processes of synergy and *Māori* adaptation took a pre-determined course. As prescribed by the dominant hierarchy, I argue that a vertical oriented approach, termed the 'strand by strand' method, set in the supreme verticality of dominant discourse versus the sub-ordinance of multiple, non-official discourse.

I postulate that verticality cross-cut multiplicity (and the reverse) under the hierarchical power of Westminster-Keynesian verticality, as articulated in the hierarchy and multiple connection model of the study. This is now further examined in terms of *Māori* adaptation to the supreme verticality of Westminster-Keynesian re-matching.

5.4.4 *Westminster-Keynesian re-matching power and Māori reflexivity - performance and performativity*

> The Ministry has widely and publicly indicated its wish to involve *hapu, iwi* and *Māori* in the EPI programme. It states a recognition of '*Māori* as *tangata whenua* and Treaty partner, and the role that *Māori* play in effective resource management'. The Ministry also 'recognises the value of indigenous knowledge and seeks not only to incorporate *Māori* concepts, but to recognise the alternative to empirical science they provide' . . . Furthermore, the Ministry looks to 'reflect socio-cultural components through the process of environmental indicator development and appreciates that *Māori* input into this project will greatly assist in identifying gaps in environmental information. The EPI programme will provide an opportunity for *Māori* to be involved in the development of a comprehensive environmental information resource to account for *Māori* cultural preferences' . . . (Gardiner et al., 1998b: 8).

Thus, it seems apparent that the soft law *Māori* political imperative was underpinned by the vertical supremacy of Westminster-Keynesian re-matching (Gardiner et al., 1998a; 1998b; Ministry for the Environment, 1998c; 1999a; 2001; and *Tuanuku* et al., 1998), as theorised between synergistic processes of performativity and performance. On one side - as exemplified in the above quotation (Gardiner et al., 1998b), I postulate that *te ao Māori* was re-matched through synergistic processes of performativity. In my comparative analysis, such supreme verticality purported the counter-hegemonic re-matching of *te ao Māori;* that being, as an inwardly directed process of synergistic value change.

On the other side - as Gardiner et al (1998a) and Ministry for the Environment (1998c) expand in the passages that follow, I postulate that *te ao Māori* was re-matched through synergistic processes of performance:

> Consultation Process . . . At the outset it is important to emphasise that while the word 'consultation' is used . . . it is not consultation in the fullest sense as *hapu, iwi* and *Māori* generally understand it. It would be more accurate to describe the . . . project as a communications exercise with *hapu, iwi* and *Māori,* to brief them on the EPI Programme and to seek their preliminary views . . . (Gardiner et al., 1998a: 6).

> The EPI programme and *Māori* . . . It is the view of this panel that there are numerous faults in this methodology…Its major fault is that it is not based upon the Treaty of *Waitangi*. Further, it represents an attempt to 'fit' *Māori* concerns into the Ministry's methodology (particularly the 'strand' concept) with little or no discussion . . . (Ministry for the Environment, 1998c: 9).

In my comparative analysis, such supreme verticality also purported the counter-hegemonic re-matching of *te ao Māori;* that being, as an outwardly directed process of synergistic value change.

5.4.5   Westminster-Keynesian re-matching supremacy - Māori resistance and reconciliation

> Participants were reluctant to agree to a categorisation of information into convenient boxes for the purposes of 'meeting western science logic'. Attempts at utilising the formats proposed by the Ministry were equally unsuccessful. In part there was fear amongst *Māori* participants of 'selling out' without consulting their *kaumatua* and *kuia* and their *hapu* and *iwi*. It was therefore much easier to park the problem for the time being and try to seek for ways to develop a process that made them comfortable (Gardiner et al., 1998a: 3).

> The initial desire of the Ministry for the Environment to convene a group of *'Māori'* experts who would input *Māori* concerns and ideas into EPI methodology is faulted. Such a plan does not comply with the Treaty of *Waitangi* (and the Partnership - 2 Cultures Development model) and represents the attempted acquisition by one paradigm of knowledge created by another without due consideration of the paradigm within which that knowledge is created. The 'strand-by-strand' method employed by the Ministry represents a paradigm and the Ministry is attempting to acquire *Māori* knowledge by applying this paradigm. Without recourse to the Treaty of *Waitangi* and a properly mandated negotiation, such a move would create improper acquisition (Ministry for the Environment, 1998c: 28).

Taken together, as Gardiner et al (1998a) and Ministry for the Environment (1998c) further reiterate, I postulate that *Māori* reflexive strategies both resist and reconcile to the supreme verticality of Westminster-Keynesian re-matching and that these synergistic processes are simultaneous (Gardiner et al., 1998a; 1998b; Ministry for the Environment, 1998c; 1999a; 1999b; *Tipa* et al., 2003; *Tuanuku* et al., 1998; and *Tutepourangi* et al., 2005).

For example, on one side, my comparative analysis entails *Māori* resistance, as depicted in the passages that follow (Gardiner et al., 1998a; and Ministry for the Environment, 1999a):

> Given the very tight framework of the project it is not surprising that much of the input from *hapu, iwi* and *Māori* was often in an unrefined form. Many of the ideas expressed about potential indicators, especially at *hui,* were rarely well informed or deeply thought out . . . (Gardiner et al., 1998a: 12).

> . . . the original approach for gaining *Māori* input might have been too restrictive. The paper raised the difficulty of conducting strand by strand development in the absence of an agreed framework against which that development can be measured, and recommends a much tighter consultation process (Ministry for the Environment, 1999a: 10).

In comparison, on the other side, my comparative analysis entails *Māori* reconciliation, as demonstrated in the following quotation (Smith; (W)1998):

> What remains a major gap is a proper evaluation of *Māori* perceptions/ concerns and it is among this community that the most important differences that national indicators should capture may exist. A proper consultative process with the *Māori* community may be required (Smith, (W)1998: 11).

In both cases, I postulate that these *Māori* reflexive strategies to Westminster-Keynesian re-matching, sought to enhance the potential incorporation of *te ao Māori*.

Altogether, the above discussion compared *Māori* reflexive strategies of Westminster-Keynesian supremacy, hierarchy and re-matching in the evolution

of national/*Aotearoa* environmental performance indicator development. The remainder of the section focuses more specifically on *Māori* adaptation to the vertical hegemony of dominant water indicator discourse.

5.4.6 *The supreme hegemony of dominant water indicator discourse*

> Proposed Priority Order for the Development of Environmental Indicators . . . Year One: 1995/96 Financial Year…Work to begin on Water . . . Year Three: 1997/98 Financial Year . . . Additional social, cultural . . . indicators . . . (Ministry for the Environment, 1996: iii).

> Eighteen months ago the Ministry for the Environment began a major review of both its organisational structure and its priorities . . . Over the next two years we will focus on two key areas: air quality and . . . water quality and quantity indicators . . . (Ministry for the Environment, 2005a: 3).

In the more specific terms of my comparative analysis, western scientific indicators of water were a focal 'strand' of dominant environmental performance indicator discourse (Ministry for the Environment, 1996; 1998b; 1998d; 2002a; 2002b; 2003; 2005a; 2005b; and Snelden et al., 2005). As indicated in the top above passage (Ministry for the Environment, 1996: iii), much effort was generated toward grounding the hegemonic dominance of western scientific water indicators. In particular, as exemplified in the bottom above passage (Ministry for the Environment, 2005a), dominant water indicator discourse has remained a top priority of concern ever since (Ministry for the Environment, 2005a; 2005b; and Snelden et al., 2005).

It appears evident that dominant water indicator discourse purported the ultimate supremacy of hegemonic western scientific knowledge (Ericksen, 1991; Galbreath, 1998; Mosely, 1990; 1992; Oliphant et al., 1992; Ward et al., 1992; and Ward et al., 1997). I postulate that water technological authoritarianism pervades through the hegemony of the specialisation of water indicator discourse. Drawing on my risk society theorising, verticality was theorised in the transition from the 'old' to the 'new' hierarchical order of

Aotearoa water specialist hierarchies,[133] as illustrated in the quotation that follows:

> Fragmented statutory provisions in relation to water and concern over its administration and regulation led to the introduction of the Water and Soil Conservation Act in 1967. The Act was implemented at the national level through the National Water and Soil Conservation Authority (NWASCA). The Authority and three subsidiary councils were serviced by the Ministry of Works. When NWASCA was abolished in 1988, the functions and powers of the catchment boards and regional water boards were changed to included most of those previously under the Authority . . . The Ministry of Works, in its resource management role, failed to integrate the management and operation of the Town and County Planning Act with the Water and Soil Conservation Act and the Rivers Control Act (Ward et al., 1997: 5).

Thus, I argue that the hegemonic co-optation of water specialisation transported a ubiquitous and pervasive supremacy into dominant water indicator discourse.

5.4.7 *The political rhetoric of Māori water indicators*

> A *Māori*-specific Strand/s? . . . The EPI Programme deals with strands that are of generic importance for all New Zealanders. For example, land and water are of obvious importance to *hapu, iwi* and individual *Māori* . . . This approach requires *Māori* to find ways of fitting their unique environmental history and experience into a general framework . . . (Ministry for the Environment, 1998c: 7).

> The Role of *Māori* . . . The relationship of *Māori* people and their culture to the environment is recognised in the Resource Management Act 1991, in the Environment 2010 Strategy and in other policies and legislation. *Māori* have a relationship with their environment, which has evolved over many years. Centuries of observation and experience may have resulted in the use of environmental indicators for customary resource management practices. Furthermore, some aspects of environmental quality, such as spiritual values of water, are of specific concern to *Māori* culture. *Māori* may also wish to contribute towards the selection and development of indicators where these

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[133] My use of the term *Aotearoa* water specialist hierarchies here refers to the amalgamation from 'old' water hierarchies such as the National Water and Soil Conservation Authority, Regional Water Boards, Water Directorate and Department of Science and Industry Research to the 'new' water hierarchy of the Crown Research Institutes such as the National Institute of Water and Atmosphere and the Water Regional Authority of Environment *Waikato*. For further details see Galbreath (1998); and Ward et al (1997).

apply to contemporary *Māori* development issues, such as forestry and fishing (Ministry for the Environment, 1999a: 37).

Nevertheless, dominant water indicator discourse was opened up to alternatives such as *te ao Māori,* as noted in the above commentaries (Ministry for the Environment, 1998c; 1999a).

However, I propose that only a marginal recognition of *te ao Māori* transpired (Ministry for the Environment, 1999b; *Tipa,* 1999; *Tipa* et al., 2003; and Ward et al., 1997). Rather, concerted effort focused on the acknowledgement of western scientific water indicators (Ministry for the Environment, 1998d; 2001; 2002a; 2002b; 2003; 2005a; 2005b; and Snelder et al., 2005). As a consequence, I argue that dominant water indicator discourse took a 'mainstream' or 'official' capacity, as demonstrated in the quotations that follow (Ministry for the Environment, 2002b: 2; and Ward et al., 1997: 8):

> The environmental performance indicators programme worked in three main areas: . . . River Environments Classification (REC) . . . have been completed and sent to . . . councils (Ministry for the Environment, 2002b: 2).

> A core set of ecosystem components has been selected by the Australian State of Victoria where an "Index of Stream Condition" is being developed as a tool to aid water management . . . We intend to develop a similar approach in New Zealand . . . (Ward et al., 1997: 8).

In comparison, I argue that *Māori* water indicator discourse was sidelined to the lesser authoritative realm of non-official discourse (Gardiner et al., 1998a; 1998b; Ministry for the Environment, 1998c; 1999a; 1999b; *Tipa,* 1999; *Tipa* et al., 2003; and *Tuanuku* et al., 1998), termed '*Māori* technical reporting', as depicted in the following passage *(Tipa* et al., 2003: iii):

> A Cultural Health Index for Streams and Waterways . . . Indicators for recognising and expressing *Māori* values . . . This report is the product of three years' work . . . The Ministry for the Environment is making this available as a technical report under the Environment Performance Indicators Programme. The report provides useful information to a wide range of people with an interest in environmental indicators and resource management. The Cultural Health Index is an interim product, which will be

> tested for its national applicability by 2005. Earlier technical reports . . . Paper No.58, *Taieri* River Case Study, October 1999 . . . Paper No. 58, *Taieri* River Case Study, Volume 2, October 1999 . . . *(Tipa* et al., 2003: iii).

5.4.8 *Māori water technical reporting and the unrealised potential of Māori reflexivity*

> In preparing this summary report the following process was used: The assessments of the physical characteristics were collated and written as a percentage. The qualitative comments from the observers have been collated. It should be noted however that 4 of the *kaumatua* had writers - they told the writers what they were observing and thought of the site and it was the role of the writer to record their comments . . . *(Tipa,* 1999: 2).

> The purpose of this study was to develop a tool to facilitate the input and participation of *iwi* into land and water management processes and decision making. The result is the Cultural Health Index (CHI) for streams, developed by linking Western scientific methods and the cultural knowledge about stream health . . . *(Tipa* et al., 2003: vii).

More specifically, I postulate that *Māori* water technical reporting only provides a narrow viewpoint of *Māori* reflexivity (Ministry for the Environment, 1999b; *Tipa,* 1999; *Tipa* et al., 2003; and *Tutepourangi* et al., 2005), with specific regard to the ground breaking works of *Tipa* (1999) and *Tipa* et al (2003) on a cultural index of *Māori* water indicators. For example, as demonstrated in the above quotations *(Tipa,* 1999; and *Tipa* et al., 2003), *Tipa's* focus was the physical dimension of water, utilising western scientific tools of analysis. Although she applied *Māori tikanga,* it was finetuned to engage the single-domain of water physicality. As a consequence, the multi-dimensionality of *Māori* reflexivity was ignored. For further details of *Tipa's* cultural indicator index see *Appendix 5.2.*

Overall, I argue that the reflexive potential of *te ao Māori* epistemology remained unrealised in *Māori* adaptive strategies to the authoritative hegemony of dominant water indicator discourse, with specific regard to *Māori* water technical reporting.

To summarise, in this section I presented my comparative analysis of the nuanced reality of national/*Aotearoa* environmental performance indicator development with respect to the correlated findings of potential synergy under the epistemological leaning toward growth over conservation. Moreover, it focused on the vertical attributes of supremacy, hierarchy and re-matching in *Māori/*indigenous adaptation at the national/*Aotearoa* environmental governance and change level of the Westminster-Keynesian system.

5.5 Conclusion

In conclusion, *Chapter 5* further contributed to *Part 2* (Balance of Values) of the thesis, pivoted toward the practice side of nuanced problem solving. It completed my theoretical articulation of nuanced reality in the study. The chapter reported on the growth over conservation correlated finding of late-modern synergy from the search for the synergistic balance of values in the nuanced reality of environmental monitoring and environmental performance indicator development under the *Resource Management Act 1991*. The balance of values is next examined from the theoretical focus of reflexive practice, starting with my comparative analysis of the five environmental authority case studies *(Chapter 6),* followed by the three *Māori* river community case studies *(Chapter 7).*

Hereby, *Chapter 5* provides original *Māori* And/Also theory-empirical/analytical research on the search for synergies between *te ao Māori/*indigenous knowledge and western scientific knowledge through my comparative analysis of the nuanced reality of environmental monitoring and environmental performance indicator development under the *Resource Management Act 1991*. Drawing on my comparative analysis of *Māori*/indigenous adaptation to the vertical attributes of supremacy, hierarchy and re-matching, synergistic value change was emancipated both globally and nationally in the underpinning verticality epistemological frameworks of the Westphalia international order and Westminster-Keynesian system respectively at the world and national/*Aotearoa* levels of environmental governance and change.

Finally, my postulations of late-modern synergy and *Māori* reflexivity more specifically brought forth the potential synergies between *te ao Māori* and western science in the environmental monitoring sub-field of environmental performance indicator development under the *Resource Management Act 1991*. In the next two chapters *(Chapters 6* and *7),* these propositions are comparatively analysed more concretely through my reflexive practice theorising on inter-governmental institutional environmental governance in the five environmental authority case studies *(Chapter 6)* and cross-tribal local river *kaitiakitanga* in the three *Māori* river community case studies *(Chapter 7).*

Chapter 6 *Aotearoa* synergistic value change - hierarchical applications

6.i Reflexive practice - stage 4 of the articulation of theory in the study

The following three chapters *(Chapters 6*, *7* and *8)* focus on my theorising of reflexive practice, as highlighted at stage 4 of the articulation of theory in the study *(Table 6.i).* These chapters are theorised at the micro level of the thesis. In *Chapter 6* I discussed the hierarchical applications of reflexive practice in the five environmental authority case studies, whereas *Chapter 7* focuses on local applications of reflexive practice in the three *Māori* river community case studies. In *Chapter 8,* I am primarily concerned with the implications of reflexive practice on the future advancement of *Māori*.

Table 6.i   Stage 4 of the articulation of theory in the study - conceptual framework

Theoretical level	Chapters of the thesis	Theoretical focus
Stage 1		
Macro theory	Preface - Chapter 1	Value change
Stage 2		
Macro theory	Chapters 2 - 3	Reflexivity
Stage 3		
Meso theory	Chapters 4 - 5	Nuanced reality
Stage 4		
Micro theory	**Chapters 6 - 8**	**Reflexive practice**

6.ii Stage 4 terminology - the acronyms and concepts of reflexive practice

I first introduce and define the stage 4 terminology of the thesis. The acronyms and concepts of reflexive practice are listed in *Tables 6.iia,b (Glossaries).*

Tables 6.iia,b   The acronyms and concepts of reflexive practice in the study - analytical framework

Table 6.iia   The acronyms of reflexive practice in the study - definitions

Acronym	*Definition*	*Meaning*
CCR	*collective cross-tribal reflexivity*	representative or collective case examples of the reflexive practice of cross-tribal local river *kaitiakitanga*
CIR	*collective institutional reflexivity*	representative or collective case examples of the reflexive practice of inter-governmental institutional environmental governance
DMR	*diverse/multi-reflexivity*	specific case examples of the reflexive practice of socio-cultural consolidation
MCS	*Māori river community case study*	*Māori* river community case study of cross-tribal local river *kaitiakitanga*
MRU	*Māori river users*	*Māori kaitiaki* of cross-tribal local river *kaitiakitanga*
MR	*multi-reflexivity*	specific case examples of the reflexive practice of institutional consolidation
REA	*reversed epistemological association*	reflexive co-optation of western science

Table 6.iib   The concepts of reflexive practice in the study - definitions

Concept	*Definition*
a *accumulated detraditionalisation*	transitional processes of detraditionalisation between primary and reversed vertical individualisation
Aotearoa hierarchical organised irresponsibility	total medium abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on inter-governmental institutional environmental governance at the distinguishing point in the five environmental authority case studies

Concepts (continued)

Concept	*Definition*
Aotearoa hierarchical reflexive modernisation	total high abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on inter-governmental institutional environmental governance at the distinguishing point in the five environmental authority case studies
Aotearoa hierarchical relations of definition	*Aotearoa* hierarchical reflexive modernisation processes of the relations of definition and late-modern synergy
Aotearoa hierarchical relations of production	*Aotearoa* hierarchical reflexive modernisation processes of the relations of production and late-modern synergy
Aotearoa local reflexive modernisation	total high abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on cross-tribal local river *kaitiakitanga* at the distinguishing point in the three *Māori* river community case studies
Aotearoa local relations of definition	*Aotearoa* local reflexive modernisation processes of the relations of definition and late-modern synergy
Aotearoa local relations of production	*Aotearoa* local reflexive modernisation processes of the relations of production and late-modern synergy
Aotearoa local social explosiveness of hazard	total medium abstracted reflexive processes of late-modern synergy underpinning the documented, oral and observable data trajectory on cross-tribal local river *kaitiakitanga* at the distinguishing point in the three *Māori* river community case studies
collective cross-tribal reflexivity	representative or collective case examples of the reflexive practice of socio-cultural consolidation
collective diversity	*Māori* reflexive strategies of late-modernity between the *waka* and *iwi Māori* people groups of wider *Māori* society

Concepts (continued)

Concept	*Definition*
collective institutional reflexivity	representative or collective case examples of the reflexive practice of institutional consolidation
consolidated verticality	reflexive reconstruction of vertical epistemology
counter-hegemonic movement	reflexive processes of conservation over growth
cross-tribal local river kaitiakitanga	cross-sectional representation of the reflexive reconstruction of river *kaitiaki* identity and values in the *Māori* river community case studies
cultural survival/loss value spectrum of ngā tikanga tūpato	socio-cultural late-modern value categories of the detraditionalisation of *ngā tikanga tūpato*
- normative ngā tikanga tūpato (cultural survival value pole) *- re-normative ngā tikanga tūpato* *- de-normative ngā tikanga tūpato (cultural loss value pole)* *- non-normative ngā tikanga tūpato* *- un-normative ngā tikanga tūpato*	- epistemological 'home-base' of the *te ao Māori* stronghold - strong alignment and connection to the *te ao Māori* stronghold - decreasing alignment and connection - very little alignment and connection - no alignment or connection
diverse/multi-reflexivity	specific case examples of the reflexive practice of socio-cultural consolidation
hierarchical informational reflexivity	vertical inter-governmental information reflexivity
hierarchical official and non-official discourse distinction	vertical inter-governmental official and non-official discourse distinction
hierarchical vertical governance	vertical inter-governmental governance structure
informational reflexivity	accommodation processes of knowledge/value change
institutional consolidation	reflexive reconstruction of consolidated verticality by the environmental worker reflexive self
inter-governmental institutional environmental governance	cross-sectional representation of the reflexive reconstruction of environmental worker identity and values in the environmental authority case studies
local informational reflexivity	vertical cross-tribal informational reflexivity
local official and non-official discourse distinction	vertical cross-tribal official and non-official discourse distinction

Concepts (continued)

Concept	*Definition*
local vertical governance	vertical cross-tribal governance structure
multi-reflexivity	specific case examples of the reflexive practice of institutional consolidation
official and non-official discourse distinction	vertical epistemological framework
primary vertical individualisation	primary evolutionary stage of *Māori* land alienation and co-optation of vertical epistemology
reversed epistemological association	reflexive co-optation of western science
reversed vertical individualisation	secondary evolutionary stage of *Māori* land alienation and co-optation of vertical epistemology
socio-cultural consolidation	reflexive reconstruction of consolidated verticality by the *Māori* river user reflexive self
specific diversity	*Māori* reflexive strategies of late-modernity between the *waka* and *iwi* *Māori* people groups of wider *Māori* society
te ao Māori stronghold	adaptive strength of *Māori* reflexivity
technological authoritarianism	vertical authority of informational reflexivity
vertical governance	vertical epistemological connection of Westphalia international order and Westminster-Keynesian system
vertical individualisation: *- primary & reversed*	two stage evolution of *Māori* land alienation

6.iii   Stage 4 of my Māori theorising of theory and reality

The remaining chapters *(Chapters 6, 7* and *8)* further elaborate on how social reality (side b) informs the articulation of theory (side a), as highlighted at stage 4 of my *Māori* theorising of theory and reality. This is depicted in *Figure 6.i.,* which was first used in the *Prelude* as *Figure i.i.*
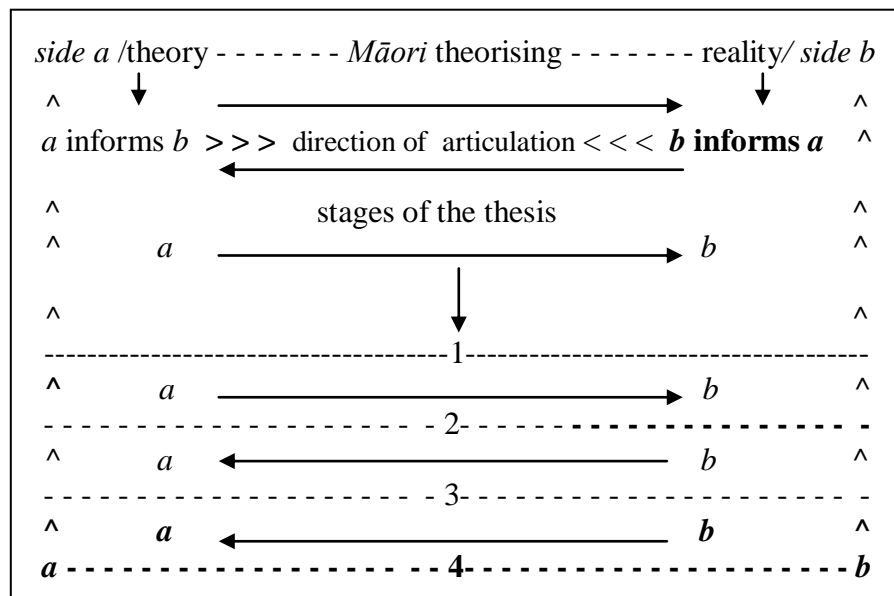
Figure 6.i   Schema of my *Māori* theorising of theory and reality - stage 4; where social reality (side b) informs theory (side a)

6.iv   The stage 4 whakatāukī of the study and my pro-Māori use of theory

I commence with the *Māori whakatāukī 'Toitu he kainga, whatu nga-rongaro he tangata',* 'The land still remains when the people have disappeared'. In my viewpoint, it encapsulates a pro-*Māori* theoretical emphasis on 'the adaptive endurance of *Māori* reflexivity', as defined in terms of six main attributes at stage 4 of the thesis *(Table 6.iii).* I elaborate on the stage 4 *whakatāukī* of the study in *Appendix i.ii.*

Table 6.iii   Overview of my pro-*Māori* use of theory and theoretical argument of the study - conceptual framework/ stage 4

Main attributes of the theoretical argument					
Issues	*Actions*	*Outcomes*	*Limitations*	*Implications*	*Future Research*
Main whakatāukī, proverbial theme - 'Progress forward and Māori reflexivity'					
PART 1: COMPARISON OF VALUES					
Stage 1 whakatāukī, proverbial theme - 'The synergistic potential of Māori reflexivity'					
contesting value systems	*Māori* theorising of the difference and affinity of values	synergistic approach	unrealised potential of synergy	reconciliation of values	reconciliatory approaches
Stage 2 whakatāukī, proverbial theme - 'An evolutionary viewpoint of Māori reflexivity'					
reflexive change	*Māori* theorising of reflexive change	*Māori* viewpoint of reflexive change	*te ao Māori* as non-reflexive	reflexive processes of cultural loss and cultural survival	*Māori* adaptive strategies of cultural loss and survival
PART 2: BALANCE OF VALUES?					
Stage 3 whakatāukī, proverbial theme - 'The adaptive strength of Māori reflexivity'					
nuanced reality of synergy	*Māori* theorising of nuanced reality	*Māori* viewpoint of nuanced reality	oppositional theorising	nuanced reality of oppositions and similarities	nuanced problem solving
Stage 4 whakatāukī, proverbial theme - 'The adaptive endurance of Māori reflexivity'					
reflexive practice of synergy	***Māori* theorising of reflexive practice**	***Māori* viewpoint of reflexive practice**	**one-sided viewpoint of reflexive change**	**reflexive practice of cultural loss and survival**	***Māori* reflexive practice of cultural survival and loss**

6.1 Introduction

From the outset, I indicated that *Part 2* of the thesis compares value balance in ecological governance utilising my *Māori* And/Also theorising of nuanced reality and reflexive practice. In the previous two chapters I introduced my comparative analysis of nuanced reality throughout the evolution of world and national/*Aotearoa* environmental governance and change. In this chapter, I report on my estimated correlated findings of growth and conservation from the search for the balance of values in the reflexive practice of the five environmental authority case studies.

In *Chapter 1,* I identified the subtleties of environmental worker identity/values underpinning inter-governmental institutional environmental governance of the five environmental authority case studies under the *Resource Management Act 1991.* As theorised through the *Māori* And/Also stance of *Chapter 6,* I conduct a comparative analysis of the reflexive practice of synergistic value change in the evolution of inter-governmental institutional environmental governance and the five environmental authority case studies under the *Resource Management Act 1991.* I begin by locating the micro *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum inter-governmentally at the evolutionary distinguishing point of the contemporary epoch. The rest of the chapter outlines how reflexive processes of late-modern synergy have evolved to the current period of the reflexive reconstruction of environmental worker identity/values, at the inter-governmental institutional environmental governance level of *Aotearoa* synergistic value change in micro late-modernity.

6.2 Micro *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum of inter-governmental institutional environmental governance

The *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum underpinning the micro documented, oral and observable data trajectory on inter-governmental institutional environmental governance is located in evolutionary terms of *Aotearoa* synergistic value change, as conveyed in the two sub-sections of this section *(6.2.1 - 6.2.2).* After setting the environmental worker reflexive self hierarchically at the distinguishing point of

micro late-modernity *(6.2.1)*, I briefly identify the synergistic potential of inter
-governmental institutional environmental governance along the micro value
continuum of the study *(6.2.2)*.

6.2.1 Consolidated verticality and the environmental worker reflexive self - implementing national, regional and district indicators

> *1.*
> . . . that's right . . . *Māori* input in the Ministry for the
> Environment . . . the indicator programme . . . all finished
> . . . In Environment *Waikato* . . . developing indicators? . .
> . all done . . . no *Māori* involvement . . . In the *Taupō*
> District Council . . . *Māori* role in the development of
> indicators? . . . nothing internal . . . In the *Oparau* District
> Council . . . indicators and *Māori* . . . nothing . . . In the
> Thames-Coromandel District Council . . . all completed .
> . . the *Hauraki* customary indicator report . . . no other
> work on *Māori* indicators . . . finished . . . (policy maker
> research participant - Ministry for the Environment,
> 2003/key informant 1; policy maker research participant -
> Environment *Waikato,* 2003/key informant 1; planner
> research participant - *Taupō* District Council, 2003/key
> informant 2; *iwi* liaison research participant - *Otorohanga*
> District Council/key informant 5; and planner research
> participant - Thames-Coromandel District Council,
> 2003/key informant 3, respectively).

As transcended in reflexive practice institutionally*,* late-modern synergy was
comparatively analysed at an evolutionary time point of the consolidated
vertical epistemological power and authority of western science over *te ao
Māori*, termed 'consolidated verticality', in national,[134] regional,[135] and
district[136] inter-governmental institutional environmental governance.

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[134] My key references on national inter-governmental institutional environmental governance include: Ministry for the Environment, 1998a; 1998b; 1991a; 1992; 1993; 1996; 1997; 1998a; 1998b; 1998d; 1999a; 1999b; 2001; 2002a; 200b; 2003; 2005a; 2005b; *Tipa,* 1999; and *Tipa* et al., 2003.

[135] My key references on regional inter-governmental institutional environmental governance include: Davis et al., 1997a; 1997b; 1997c; Environment *Waikato*, 1998a; 1998b; 1998c; 1998d; 2000; 2003a; 2003b; 2003c; 2003d; Huser, 1996; 1997; 1999; 2002; *Kowhai* Consultancy Limited, 2000; and Ward et al., 1992.

[136] My key references on district inter-governmental institutional environmental governance include: *Ngāti Porou ki Harataunga,* 1999; 2001; *Ngāti Tuwharetoa Māori* Trust Board, 2003; *Otorohanga* District Council, 1991; 1996; 2000; *Tāupo* District Council, 1998; 2000a; 2000b; and Thames-Coromandel District Council, 1997; 2001; 2003; and Wakeling et al., 1995.

This growth over conservation correlated finding of late-modern synergy was theorised from the search for ecological governance between hierarchical official discourse (referring to the hierarchical vertical epistemological framework of western science) and non-official discourse (referring to the hierarchical multiple epistemological framework of *te ao Māori/*indigenous knowledge). Inter-governmentally, my proposition relates to the hierarchical dominance of official discourse, as theorised by reference to the verticality attributes of hierarchical vertical governance, the hierarchical official and non-official discourse distinction and hierarchical informational reflexivity. My summary charts are provided in *Tables 6.1a,b.* Background information on my hierarchical postulations of late-modern synergy can be found in *Appendices 6.1a,b.*

Table 6.1a   Theoretical framework of hierarchical official discourse - summary chart

- Theoretical attributes of hierarchical vertical governance:

  - the hierarchical vertical 'tree top' sovereign authority and power structure;

  - the hierarchical vertical 'gesellschaft' control bureaucracies ('steering' and 'rowing'); and

  - the hierarchical vertical 'single voice' representation.

- Theoretical attributes of the hierarchical vertical official and non-official discourse distinction:

  - the hierarchical vertical technological authoritarianism and specialisation viewpoint;

  - the hierarchical vertical commodified intellectual property viewpoint; and

  - the hierarchical vertical pre-modern assumptions viewpoint.

- Theoretical attributes of hierarchical vertical informational reflexivity:

  - the hierarchical vertical shallow, short termed and commodified output approach;

  - the hierarchical vertical exploitative legacies approach; and

  - the hierarchical vertical non-incorporation and non-participation approach.

Table 6.1b   Theoretical framework of hierarchical non-official discourse
- summary chart

- Theoretical attributes of hierarchical multiple governance:

  - the hierarchical multiple 'polyarchy' multi-dimensionality and holism structure;

  - the hierarchical multiple 'gemeinschaft' multiple communal and collective inter-connections; and

  - the hierarchical multiple 'collective voice' representation.

- Theoretical attributes of the hierarchical multiple official and non-official discourse distinction:

  - the hierarchical multiple 'time immemorial' and experiential viewpoint;

  - the hierarchical multiple intrinsic value viewpoint; and

  - the hierarchical multiple socio-cultural and biological diversity viewpoint.

- Theoretical attributes of hierarchical multiple informational reflexivity:

  - the hierarchical multiple deep, long termed and authentic assessment as outcomes approach;

  - the hierarchical multiple reciprocal and benefit sharing approach; and

  - the hierarchical multiple traditional ecological and adaptive knowledge and expertise approach.

As demonstrated in the above commentary numbered 1, hierarchical official discourse predominates over hierarchical non-official discourse in the Ministry for the Environment (MfE), Environment *Waikato* (EW), *Taupō* District Council (TDC), *Otorohanga* District Council (ODC), and Thames-Coromandel District Council (TCDC) environmental workers reflexive reconstruction of identity/values, termed 'environmental worker reflexivity'. For my research purpose of comparing these reflexive processes of late-modern synergy inter-

governmentally, the phrase 'hierarchical applications of consolidated verticality' is employed. To illustrate (see the above commentary numbered 1), this refers to the dominance of hierarchical official discourse through the MfE and EW hierarchical tree top vertical sovereign authority and power structure (as exemplified in first and second comments by the MfE and EW policy makers) and TDC, ODC and TCDC hierarchical single voice representation (as exemplified in the third, fourth and fifth comments by the TDC planner, ODC *iwi* liaison officer and TCDC policy maker).

I postulate that hierarchical western scientific knowledge (WSK) and indigenous knowledge (IK) paradigmatic shifts in favour of western science were at the crux of environmental worker reflexivity. In my inter-governmental research participant sample (total = 30), this is theorised by reference to the hierarchical terms of 'related work ', 'post work' and 'non work'. MfE, EW, TDC, ODC and TCDC related work refers to policy, planning, scientific and *iwi* liaison related work of environmental worker reflexivity on WSK and IK paradigmatic shifts (that is, non western science favoured) of national/*Aotearoa* environmental governance/management with specific regard to environmental performance indicator (EPI) development under the *RMA 1991* (total = 0). MfE, EW, TDC, ODC and TCDC post work refers to related work of environmental worker reflexivity after the prior established WSK and IK paradigmatic shifts in favour of western science (total = 10). MfE, EW, TDC, ODC and TCDC non work refers to non-related work of environmental worker reflexivity after the prior established WSK and IK paradigmatic shifts in favour of western science (total = 20). My summary chart is provided in *Table 6.2*.

**Table 6.2   Postulated hierarchical terms of environmental worker reflexivity and the environmental research participant sample -
summary chart**

Terms of reference	MfE workers No = 4	EW workers No = 6	TDC workers no = 7	ODC workers no = 6	TCDC workers no = 7
related work	**0**	**0**	**0**	**0**	**0**
post work	4	4	2	0	0
non work	0	2	5	6	7
Totals of research sample	**4**	**6**	**7**	**6**	7 = 30

6.2.2 Synergy and hierarchical impacts of institutional consolidation

2.

. . . yes . . . there were a lot of lessons learnt . . . problems with the strand approach for *Māori* indicators . . . with *Māori* participation . . . a lot of issues . . . we did the best job possible . . . I think . . . some really good outcomes . . . *Hauraki* customary indicator report . . . cultural water index . . . however . . . all finished and doing other work now . . . all over . . . no more *Māori* input . . . (policy maker research participant - Ministry for the Environment, 2003/key informant 3).

3.

. . . *te taha Māori* considerations in water management and quality?. . . not taken seriously at all . . . only looked at in the last ten years . . . barely anything before that . . . certainly it's not my job to put it all together . . . that's the job of the elected decision makers . . . we just provide our bit . . . our part of the puzzle . . . we provide the technical expertise . . . high quality scientific information . . . I'm a technocrat . . . I'm just an employee . . . not paid to see the big picture . . . *Māori* worldview has very little consideration in our approximately sixty staffed group . . . is not part of our work . . . not competent to deal with *Māori* issues . . . neither are the others . . . not our role do that . . . we just provide our part . . . (scientist research participant - Environment *Waikato,* 2003/key informant 1).

4.

. . . the second project I co-ordinate is the indicator development programme . . . more long-term . . . state of environment reporting for local councils . . . in 1999 we developed a baseline or benchmark list of about 30 or 40 indicators . . . *Māori* not included . . . in the development part . . . no data . . . considered separately . . . much later . . . anyway all finished and available on the website . . . not producing any more . . . now waiting for the information and results to come through . . . just using the website now . . . (policy maker research participant - Environment *Waikato,* 2003/key informant 2).

5.

. . . I'm currently tying up my work on the *Taupō* community values and indictors project 'VAST' (A Vibrant And Sustainable *Taupō* District) . . . *Māori* input quite separate . . . behind closed doors . . . closed off . . . not involved (planner research participant - *Taupō* District Council, 2003/key informant 3). (planner research participants - *Taupō* District Council, 2003/key informants 2 and 3).

6.

. . . I've only been here for a year or so . . . not familiar
with your area of interest . . . also we have no *Māori*
issues person . . . no *Māori* liaison person . . . don't need
one . . . our council is too small . . . same with all other
small councils . . . we just lump it in with our other work .
. . the CEO deals with the high level stuff . . . seems to
work okay . . .the closest involvement is the upcoming
Kāwhia community plan . . . only just starting to work on
that . . . (planner research participant - *Otorohanga*
District Council, 2003/key informant 4).

7.

. . . yes . . . the Kennedy Bay Planning Study (draft
variation no. 4 to the district plan) started in 1999 . . .
another planner did the early work . . . not here any more
. . . also a lot of internal challenges and changes . . .
slowed things down . . . an outside consultancy
coordinated the *Māori* consultation . . . not really
involved on the ground . . . Also, I've handed a lot of this
work over to another work colleague . . . really busy . . .
my job is to pull it together . . . not to deal with the *Māori*
issues . . . (policy maker research participant - Thames-
Coromandel District Council, 2003/key informant 1).

As further illustrated in the above passages numbered 2 - 7, it was these
hierarchical impacts of vertical epistemological dominance that were the
defining feature of the late-modern, inter-governmental environmental worker
reflexive self, termed 'institutional consolidation'. This is more specifically
distinguished at the contemporary period of *Aotearoa* synergistic value change
institutionally, as follows:

- In the 2003 post[137] work related institutional consolidation of the MfE
  policy maker's discretionary use and non-use of *te ao Māori* and
  western science. For example, the dominance of official discourse is
  demonstrated through the MfE vertical gesellschaft control
  bureaucracies (as exemplified in the first part of the above MfE policy
  maker commentary numbered 1) and the MfE vertical exploitative
  legacies approach (as exemplified in the second part of the above MfE
  policy maker commentary numbered 1).

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[137] For further details see the MfE research participant sample figures in *Table 6.2.*

- In the 2003 post and non[138] work related institutional consolidation of the EW policy maker, planner, scientist and *iwi* liaison officer's use and non-use of *te ao Māori* and western science. For example, the dominance of official discourse is demonstrated through the EW vertical exploitative legacies and, EW vertical non-incorporation and non-participation approaches (as exemplified in the first above quotation of the EW scientist numbered 3) and the EW vertical technological authoritarianism and specialisation viewpoint (as exemplified in second above quotation by the EW policy maker numbered 4).

- In the 2003 post and non[139] work related institutional consolidation of the TDC policy maker, planner, scientist and *iwi* liaison officer's use and non-use of *te ao Māori* and western science. For example, the dominance of official discourse is demonstrated through TDC vertical gesellschaft control bureaucracies (as exemplified in the above TDC planner commentary numbered 5).

- In the 2003 non[140] work related institutional consolidation of the ODC policy maker, planner and *iwi* liaison officer's discretionary use and non-use of *te ao Māori* and western science. For example, the dominance of western science is demonstrated through ODC vertical non-incorporation and non-participation approach (as exemplified in the above ODC planner commentary numbered 6).

- In the 2003 non[141] work related institutional consolidation of the TCDC policy maker, planner and *iwi* liaison officer's discretionary use and non-use of *te ao Māori* and western science. For example, the dominance of western science is demonstrated through the TCDC vertical gelleschaft control bureaucracies (as exemplified in the above TCDC policy maker commentary numbered 7).

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[138] For further details see the EW research participant sample figures in *Table 6.2.*
[139] For further details see the TDC research participant sample figures in *Table 6.2.*
[140] For further details see the ODC research participant sample figures in *Table 6.2.*
[141] For further details see the TCDC research participant sample figures in *Table 6.2.*

Overall, I aimed to introduce the micro abstracted empirical evidence hierarchically*,* which confirmed that the reflexive potential of *ngā tikanga tūpato* in conservation over growth, growth over conservation and growth versus conservation was outweighed by the hegemonic dominance of western science in terms of growth over conservation under the *RMA 1991*.

6.3 Evolution of inter-governmental institutional environmental governance - *Aotearoa* hierarchical applications of late-modern synergy

In this section I present my comparative analysis of reflexive practice in the evolution of inter-governmental institutional environmental governance and the five environmental authority case studies. Before reflexive practice is correlated with reflexive theory institutionally (and the reverse) *(6.3.2 - 6.3.3)*, I introduce the theory-practical conceptual model from which *Aotearoa* hierarchical applications of late-modern synergy are compared *(6.3.1)*.

6.3.1 Theory-practical conceptual model for comparing Aotearoa hierarchical applications of late-modern synergy

> *8.* (restated, *Chapter 2*).
> While the politics of the industrial age were fought along a spectrum of left to right, the emerging politics of the biotechnology century is beginning to create a new spectrum, with a belief in the intrinsic value of life on one pole pitted against the belief in its utility value on the other (Rifkin, 1998: vi).

> *9.* (restated, *Chapter 2*).
> Human genes are being treated by science in the same way that indigenous 'artifacts' were gathered by museums; collected, stored, immortalized, reproduced, engineered - all for the sake of humanity and public education, or so we are asked to believe. One wonders just how far we've actually come. Is this development?
> Is it good science? (Mead, 1996: 46).

> *10. (restated, Chapter 2).*
> The concept of 'organised irresponsibility' helps to explain how the institutions of modern society must unavoidably acknowledge the reality of catastrophe while simultaneously denying its existence, hiding its origins and precluding compensation or control. To put it another way, risk societies are characterised by the paradox of more and more environmental degradation -

perceived as impossible - coupled with an expansion of environmental law and regulation. Yet at the same time, no individual or institution seems to be held specifically accountable for anything. How can this be? To me the key to explaining this state of affairs is the mismatch that exists in the risk society between the character of hazards or manufactured uncertainties produced by late industrialisation and the prevalent relations of definition which date in their construction and content from an other and qualitatively different epoch . . . I use the metaphor of the social explosiveness of hazard to explain the politicizing effects of risks (definition) conflicts. I explore the ways in which the virtuality, the 'becoming real' of large-scale hazards, risks and manufactured uncertainties set off a dynamic of cultural and political change that undermines state bureaucracies, challenges of dominance of science, and redraws the boundaries and battlelines of contemporary politics. So hazards, understood as socially constructed and produced 'quasi-subjects', are a powerful, uncontrollable 'actor' that delegitimises and destabilizes state institutions with responsibilities for pollution control, in particular, and public safety, in general (Beck, 1999: 150 - 151).

Theoretically therefore (as illustrated in the above commentaries numbered 8 - 10), it seems apparent that *Aotearoa* hierarchical applications of reflexive practice correlate with dystopian (referring to transitory processes of the relations of production) over utopian (referring to transitory processes of the relations of definition) leanings of reflexive modernisation more broadly; and organised irresponsibility more specifically.

Rifkin (1998) and Mead (1996) encapsulate the playing out of the epistemological struggle between western science and *te ao Māori* over resource for use versus resource for survival underlying the transition from the relations of production to the relations of definition in reflexive modernisation. On the hierarchical side of this value equation, they illustrate the long lasting emphasis on growth over conservation or resource for use in the relations of production, underpinned by hegemonic western scientific knowledge. In my comparative analysis, this pertains to the correlation of growth over conservation hierarchically in the *Pākehā* capitalist-driven environmental governance and management regimes of the five environmental authority case studies, with specific regard to environmental performance indicator

development under the *Resource Management Act 1991*, termed *'Aotearoa* hierarchical reflexive modernisation' *(Table 6iib).*

The concept of *Aotearoa* hierarchical reflexive modernisation deals with high abstracted transitory processes of late-modern synergy impacting on the environmental worker in the reflexive reconstruction of institutional consolidation. As transcended throughout world and national environmental governance and change, this relates to the evolutionary time period of *te ao Māori*/indigenous knowledge (IK) and western scientific knowledge (WSK) paradigmatic shifts in favour of WSK from 1970 - 2001 onwards. For this research purpose, I draw on my previous comparison of IK and WSK paradigmatic shifts underpinning the world and national environmental monitoring (EM) stages of *Aotearoa* environmental performance indicator (EPI) development, as briefly outlined in *Table 6.3.*

In conjunction, I also present a comparative analysis of selected historical events on *Aotearoa* hierarchical applications of reflexive practice in the evolution of institutional consolidation and the five environmental authority case studies. My summary chart is provided in *Table 6.4.*

Table 6.3 Comparative analytical framework of *Aotearoa* hierarchical reflexive modernisation: time periods, evolutionary stages, evolutionary periods and periodic meanings - summary chart

time periods	evolutionary stages	periodic meanings
Periodic stage 1 - INITIAL CONSOLIDATION OF VERTICAL AUTHORITY		
• 1970 - 1990	- vertical benchmarking	- impregnation of vertical supremacy
Periodic stage 2 - IMMEDIATE CONSOLIDATION OF VERTICAL AUTHORITY		
• 1990 - 1998	- vertical consolidation	- stabilisation of vertical supremacy
• 1998 - 2001	- vertical accommodation	- vertical accommodation of alternatives
Periodic stage 3 - FOLLOW ON CONSOLIDATION OF VERTICAL AUTHORITY		
• 2001 onwards	- consolidated verticality	- consolidated vertical accommodation of alternatives

Table 6.4   Selected historical events in *te ao Māori*/IK and western scientific/WSK paradigmatic shifts of *Aotearoa* hierarchical reflexive modernisation in the evolution of institutional consolidation and the five environmental authority case studies - summary chart

MfE	EW	TDC	ODC	TCDC
Initial consolidation of vertical authority 1970 - 1990				
1986 Established under the Environment Act 1986	*1989* Formed from amalgamations	*1977* Formed from amalgamations	*1979* Formed from amalgamations	*1989* Formed from Amalgamations
Immediate consolidation of vertical authority (1990 - 2001)/ vertical consolidation 1990 - 1998				
1996 National indicators framework report *1997* State of the Environment report	*1996* Regional indicators framework report *1998* Proposed regional plan	*1998* Proposed district plan *1999* *Iwi* liaison	*1996* Proposed district plan	*1997* Proposed district plan
Immediate consolidation of vertical authority (1990 - 2001)/ vertical accommodation 1998 - 2001				
1998 Confirmed national indicators report 1999 *Iwi* liaison	*1999* Confirmed regional indicators report *2000* *Iwi* liaison	*1997-2002* 'VAST' *Taupō* values/indicators survey		*1999 - 2003* Proposed variation 4 to the plan/Kennedy Bay 2000-2003: *Māori* liaison
Follow-on consolidation of vertical authority 2001 >				
2003 *Tipa's* cultural index		*2002* *Iwi* environmental management plan	*2003* *Kawhia* community plan	

Also, Beck (1999) emphasises a most relevant dichotomy of denatured nature facing environmental institutions of late-modernity - that they are stupendously geared for the relations of production (that is, growth over conservation) and not the relations of definition (that is, the subtleties of growth over conservation). He argues that this brings a series of cause and effect processes and events that display the mismatch and he develops them as scenarios to exemplify a particular story about what is being played out, termed 'organised irresponsibility' (that is, the institutional side of the mismatch, as discussed in this chapter) and 'social explosiveness of hazard' (that is, the socio-cultural side of the mismatch, as discussed in the next chapter).

On the institutional side of this dichotomy, I employ the term *'Aotearoa organised irresponsibility'* which deals with medium abstracted transitory processes of late-modern synergy impacting on the environmental worker self in the reflexive reconstruction of institutional consolidation. Under Becks (1999) terms, *Aotearoa* organised irresponsibility tells the story of the structured hegemony of *Aotearoa* hierarchical reflexive modernisation in transitory processes of late-modern synergy between the relations of production, termed '*Aotearoa* hierarchical relations of production' and the relations of definition, termed '*Aotearoa* hierarchical relations of definition'.

Such reflexivity is compared at a collective or representative level, termed 'collective institutional reflexivity' and at a specific case example level, termed 'multi-reflexivity'; that being,

- *Collective institutional reflexivity level 1/* vertical and/also multiple governance -
Multi-reflexivity case examples:
- hierarchical subtleties of the vertical tree top sovereign authority and power structure (as illustrated in the above commentary numbered 1), and/also the polyarchy multiple multi-dimensionality and holism structure;
- hierarchical subtleties of vertical gesellschaft control bureaucracies (as illustrated in the above commentary numbered 2), and/also the multiple gemeinschaft communal and collective inter-connections; and

- hierarchical subtleties of vertical single voice representation (as illustrated in the above commentary numbered 3), and/also multiple collective voice representation.

- *Collective institutional reflexivity level 2/* vertical and/also multiple official and/also non-official discourse distinction -

Multi-reflexivity case examples:

- hierarchical subtleties of the vertical technological authoritarianism and specialisation viewpoint (as illustrated in the above commentary numbered 3), and/also the multiple time immemorial and experiential viewpoint;

- hierarchical subtleties of the vertical commodified intellectual property viewpoint (as illustrated in the above commentary numbered 4), and/also the multiple intrinsic value viewpoint; and

- hierarchical subtleties of the vertical pre-modern assumptions viewpoint (as illustrated in the above commentary numbered 6), and/also the multiple socio-cultural and biological diversity viewpoint.

- *Collective institutional reflexivity level 3/* vertical and/also multiple informational reflexivity -

Multi-reflexivity case examples:

- hierarchical subtleties of the vertical shallow, short term and commodified output approach (as illustrated in the above commentary numbered 5), and/also the multiple deep, long term and authentic assessment as outcomes approach;

- hierarchical subtleties of the vertical exploitative legacies approach (as illustrated in the above commentary numbered 6), and/also the multiple reciprocal and benefit sharing approach; and

- hierarchical subtleties of the vertical non-incorporation and non-participation approach (as illustrated in the above commentary numbered 7), and/also the multiple traditional ecological and adaptive knowledge and expertise approach.

My key focus is on the mismatched display of the subtleties of nuanced reality between them, as briefly covered in the remainder of the chapter two-fold: that is,

- By the correlation of reflexive theory and reflexive practice institutionally in relation to periodic stage 1/Initial consolidation of vertical authority, termed 'correlation of reflexive theory and reflexive practice institutionally 1' *(6.3.2); and*

- By the correlation of reflexive theory and reflexive practice in relation to periodic stage 2/Immediate consolidation of vertical authority and 3/Follow on consolidation of vertical authority, termed 'correlation of reflexive theory and reflexive practice 2 and 3' *(6.3.3).*

6.3.2 *Correlation of reflexive theory and reflexive practice institutionally 1*

> *11.*
> . . . *Māori* and the environment are inextricably inter-twined; theirs is a relationship spanning centuries. Centuries of observation of the environment equip *Māori* with a unique body of experience. This experience enables them to contribute alongside of western scientific knowledge and experience, to the development of tools and processes for ensuring that the *mauri* (life force) of the environment is maintained and improved (Ministry for the Environment, 1997: 7).

> *12. (restated, Chapter 4)*
> Traditionally *Māori* groups have not been directly involved in project initiation and planning. This has been the prerogative of the large public development agencies such as Ministry of Works and Development, or Ministry of Energy. Attempts to input a *Māori* perspective, or to gain access to resources necessary to expedite input into the process, have operated under severe constraints. This is because agency decision makers, who are almost exclusively *Pākehā,* control the process and the resources necessary to project planning. These people . . . control concerns such as the project time frame, finance, expertise, information and . . . capital flows associated with large scale projects . . . A further constraint on *Māori* in the planning process is the *Pākehā* power structure. As it currently exists the power structure would rather deal with *Pākehā* organisations and penalises *Māori* people who seek to have input into the planning process . . . *(Mahuta*, 1985: 12).

13. (restated, Chapter 4)
In *Wi Parata* v Bishop Of Wellington Prendergast C.J. erroneously held that *Māori* custom and usage did not exist because 'a phrase in a statute cannot call what is non-existent into being'. No such body of law existed . . . *Māori* rights under the Treaty of *Waitangi* and many of their *tikanga* values were thus marginalised and lay legally dormant until the Treaty of *Waitangi* Act 1975 with the establishment of the *Waitangi* Tribunal. The Tribunal resurrected the acknowledgement and accommodation of *Māori* values and *tikanga* in the legal system . . . While *Māori* values and *tikanga* have now re-entered the legal system, there is evidence that the system may not yet have the tools, or have developed a sufficiently informed approach, to dealing appropriately with those values (Joseph et al., 2002: 1, 16).

14. (restated, Chapter 4)
. . . The active destruction and dismantling of indigenous systems of customary law have followed a common pattern wherever colonisation has occurred around the world. The system of Parliamentary representation imposed on *Māori* after 1840 was based on the mono-cultural dominance of British constitutionalism. From 1856-1868, *Māori* representation was at the pleasure of the Governor. In 1868, *Māori* were represented through four seats in the Parliament, and powerless to prevent the framing of legislation and policies, which continued the confiscations of land and ignored the aspirations of *Māori* (Solomon, 2000: 6).

Hence (as illustrated in the above multi-reflexivity case example commentaries numbered 11 -14), it was in the 1970-1990 environmental monitoring stage of the initial consolidation of vertical authority, that the environmental worker reflexive self became impacted by institutional consolidation.

At the all-encompassing level of *Aotearoa* hierarchical reflexive modernisation, I propose that the vertical epistemological dominance of the relations of production was already locked in at the establishment (1986/Ministry for the Environment) and amalgamation (1989/Environment *Waikato,* 1977/*Taupō* District Council, 1979/*Otorohanga* District Council, and 1989/Thames-Coromandel District Council) of the five environmental authority case studies.

Inter-governmentally, my comparison of such transcending verticality is theorised in the hierarchical terms of:

- Inter-governmental hierarchical vertical governance, as exemplified in the above multi-reflexivity case example numbered 12;

- The inter-governmental hierarchical vertical official and non-official discourse distinction, as exemplified in the above multi-reflexivity case example numbered 13; and

- Inter-governmental hierarchical vertical informational reflexivity, as exemplified in the above multi-reflexivity case example numbered 14.

As these vertical epistemological underpinnings of *Aotearoa* hierarchical relations of production were impregnated and benchmarked high abstractly in the five environmental authority case studies, I postulate that it overturns transitory processes of *Aotearoa* hierarchical relations of definition (as exemplified in the above multi-reflexivity case example commentary numbered 11).

More medium abstractly, I argue that the initial consolidation of vertical authority became structured into *Aotearoa* hierarchical organised irresponsibility at this evolutionary time period inter-governmentally; that being,

- Through an inter-governmental hierarchical vertical sovereign authority and power structure (as depicted in the first part of the multi-reflexivity case example passage numbered 15 below), which deems a hierarchical multiple polyarchy multi-dimensionality and holism structure non-official (as depicted in the first part of the multi-reflexivity case example passage numbered 16 below);

- Through inter-governmental hierarchical vertical gesellschaft control bureaucracies (as depicted in the second part of the multi-reflexivity case example passage numbered 15 below), which deems a hierarchical multiple multi-dimensionality and holism structure non-

official (as depicted in the second part of the multi-reflexivity case example passage numbered 16 below); and

- Through inter-governmental hierarchical vertical single voice representation (as depicted in the third part of the multi-reflexivity case example passage numbered 15 below), which deems a hierarchical multiple collective voice representation non-official (as depicted in the third part of the multi-reflexivity case example passage numbered 16 below).

> *15.*
> . . . councils have got a culture that were going to do this . . . were going to do that . . . this is what were going to do so step aside . . . or go with us . . . but whatever . . . were going to do this . . . in other words . . . they've got a less than subtle way of jamming it down our throats . . . and I think that we've still got the last vestiges of that culture happening here in Environment *Waikato* whereas the Act tells us that now we have to be more people friendly, community oriented, and on to it with people . . . but were not like that in local government naturally, see . . . we've come from a background of using the Public Works Act on *Māori* or seeing *Māori* as problematic . . . so that colours that the way we do things . . . *(iwi* liaison officer research participant - Environment *Waikato,* 2003/key informant 5).

> *16.*
> . . . you know the most creative thinkers that I have come across have been the *Māori* ones that got the *RMA 1991* and absorbed it and understand it and still know they are *Māori* and want to work that way and you can really get some awesome ideas out of them . . . right throughout the country . . . just awesome thinkers . . . I mean you take for example people like Ella Taylor down in *Taranaki, Naniko* Mihinnick, Stan Newton, you know . . . the people that stood on the fact that hey your polluting something that's basic to us and you see what that did to the whole of the environmental movement in New Zealand, it just shook it and it made it change . . . and then along the way because it changed direction and it was part of the contribution I believe that gave hope for *Māori* people that hang these things actually are important they can actually change . . . they have got the ability to influence the future and create the future and that's what I think we need to get back into the ability to make and create the future . . . (planner research participant - Thames-Coromandel District Council, 2003/key informant 3).

- Through an inter-governmental hierarchical vertical official and non-official discourse distinction (as depicted in the multi-reflexivity case example passage numbered 17 below), which deems a hierarchical multiple time immemorial and experiential viewpoint non-official (as depicted in the first part of the multi-reflexivity case example passage numbered 21 below);

- Through an inter-governmental hierarchical vertical commodified intellectual property viewpoint (as depicted in the second part of the multi-reflexivity case example passage numbered 18 below), which deems a hierarchical multiple intrinsic value viewpoint non-official (as depicted in the second part of the multi-reflexivity case example passage numbered 21 below); and

- Through an inter-governmental hierarchical vertical pre-modern assumptions viewpoint (as depicted in the multi-reflexivity case example passages numbered 19 and 20 below), which deems a hierarchical multiple socio-cultural and biological viewpoint non-official (as depicted in the last part of the multi-reflexivity case example passage numbered 18 below).

> *17.*
> . . . in my expert field . . . I have to read very widely to keep up what others are doing elsewhere in the world . . . and I have to go to conferences to hear from them what their doing . . . obviously I hear all that and I assimilate it and make sense of it and come back and think right this is what we ought to be doing ourselves . . . and it's all to do with scientific communication amongst scientists . . . (policy maker research participant - *Taupō* District Council, 2003/key informant 4).

> *18.*
> . . . I guess if we look at the evolution of environmental values traditionally . . . in New Zealand . . . realise that we came from catchments . . . broad background . . . related to land management, water issues . . . asset management in terms of draining . . . and keeping the production of the land up . . . flood control, and all that . . . as I said before we are now beginning to slowly shift to look at other values . . . indicators underlying the management practices . . . flood control . . . drainage . . . that we do . . . that is our social wellbeing . . . environmental wellbeing . . . the economic . . . what

we've found is that we don't have a lot of good measurements and the value framework in those areas . . . we have the economy for example measured by GDP and everyone just wants more and more every year . . . so we question whether this is the right sort of measurement . . . for example . . . the services provided by nature referred to as ecosystem services . . . for example nutrient recycling or flood control by wetlands is totally ignored . . . in decision making . . . our flood management scheme, for example . . . it's easier to come up with figures in terms of the additional production of land . . . for dairying . . . for sheep and beef . . . or anything . . . but it's more difficult to except the loss in ecological services provided by a wetland . . . or a meandering river . . . and I think we need to look at it all in different ways and fill the gaps (L). . . (policy maker research participant - Environment *Waikato,* 2003/key informant 2).

19. (restated, Chapter 5).
. . . when *Māori* speak of the water, soil, forests or wildlife, they often speak of them in conjunction with *Papatuanuku, Rakinui, Tane, Tawhirimatea,* or *Takaroa.* A closer examination of the reasons for this provides an insight into the *Māori* perception of the natural world. Although there are tribal variations, the basics are the same throughout New Zealand . . . (McCan et al., 1990: 16).

20. (restated, Chapter 5).
Māori people value all aspects of the natural world with which they are kinsfolk. All forms of nature are sacred to different degrees and must be treated with respect. The *tangata whenua* possessed intimate knowledge of those resources that were needed for survival . . . (Ward, 1990: 10).

21.
. . . I can relate to the sort of connectedness to the land . . . place . . . the river . . . when I look back in terms of my own upbringing with the river Rind . . . exactly the same sort of issues and connectedness as well . . . you know the changes over the years . . . how much you want to protect it because it's part of yourself and your heritage and not for short term exploitation . . . (policy research participant - Environment *Waikato,* 2003/key informant 2).

- Through an inter-governmental hierarchical vertical shallow, short termed and commodified output approach (as depicted in the multi-reflexivity case example passage numbered 22 below), which deems a

hierarchical multiple deep, long termed and authentic assessment as outcomes approach non-official (as depicted in the first part of the multi-reflexivity case example passage numbered 25 below);

- Through an inter-governmental hierarchical non-incorporation and non-participation approach (as depicted in the multi-reflexivity case example passage numbered 23 below), and which deems a hierarchical multiple reciprocal and benefit sharing approach non-official (as depicted in the second part of the multi-reflexivity case example passage numbered 25 below); and

- Through an inter-governmental hierarchical vertical exploitative legacies approach (as depicted in the multi-reflexivity case example passage numbered 24 below), which deems a hierarchical multiple traditional ecological and adaptive knowledge and expertise approach non-official (as depicted in the third part of the multi-reflexivity case example passage numbered 25 below).

> *22.*
> . . . scientific communication of today . . . no different from the past . . . all that's really happened is that our tools have changed and we can do a lot more . . . but the working out what's actually going on is still the same, processes of debate, argument and logical thinking as it would have been in the past . . . (planner research participant - Thames-Coromandel District Council, 2003/key informant 2).
>
> *23.*
> . . . we call it scientific and technical language . . . beyond the grasp of average people . . . and that's the way its got to be . . . it's a specialised communication between experts . . . and that's why I think scientific communication is so successful . . . because it requires a high level of understanding before the conversation even begins . . . have to know and be proficient at the whole protocol of scientific communication . . . it is quite specialised and technical . . . only able to be grasped by experts . . . that's because it's about a specialised communication between experts . . . (policy maker research participant - *Otorohanga* District Council, 2003/key informant 1).
>
> *24.* (restated, *Chapter 5*).
> Dickenson (1988) considers that since New Zealand is a relatively small country, it may have to settle for a number of specialised lower cost systems of information with only summary information being bought together into a co-ordinated set of statistics prior to any identification of

environmental indicators. He suggests a simple conceptual framework for environmental information based on the work of Atony Friend in Canada . . . The environmental process/stress-response framework was considered a suitable starting point for our New Zealand study in 1989 since it provided the basis for several of the other frameworks . . . (Ward, 1990: 23).

25.
. . . surprisingly . . . I found that working with scientist has been really cool . . . with a few exceptions here and there . . . I'll give you one good example . . . we were working on one of the *Hauraki* projects on customary indicators . . . so we had a few scientists here at Environment *Waikato* that were freshwater habitats, coastal marine, people that knew about tides and stuff like that . . . and when taking them over . . . there was a lot that they didn't know about *tikanga* . . . you know stuff that we just take for granted . . . so I had to explain that away . . . but they became really, really fascinated at a personal level about our specialised ecological knowledge . . . like how do you know that because the *kowhai* tree is flowering that there is going to be *kinas* - what is the physical relationship there? You know . . . well, I don't know . . . but, you just know. There were all sorts of questions coming up at that time about how we saw things as *Māori* and I'm talking about *Māori* people that know more about it than me . . . and they were hearing these things and they were fascinated . . . and they wanted to learn more . . . in fact they just thought . . . they had a *Pākehā* consultant doing the project and they didn't want to talk with him . . . because he didn't have any of that specialised knowledge . . . . so I found the scientists quite receptive to taking on these things . . . sometimes they see a little bit of how it might work with their own stuff . . . like for example . . . water quality . . . and they've got a policy that says to protect the *mauri* of the water . . . well . . . they'll say what does that mean . . . and then you use examples . . . like for example places that are named after *taniwha* . . . or they say a *taniwha* lives . . . you can probably bet your bottom dollar that they wouldn't want that water to be dirted up by cow *tiko,* faeces or any other sort of *tiko* or *mimi,* urine . . . so then you can accord that a pretty high water quality . . . just as if you had somebody that you cherished living in there . . . you wouldn't want them in there swimming around in anything yucky . . . see you put it that way to them . . . *(iwi* liaison officer research participant - Environment *Waikato,* 2003/key informant 5).

Altogether, I postulate that such reflexive processes between discourses benchmarked and impregnated vertical supremacy during the 1970-1990

evolutionary time period of the establishment and amalgamation of the five environmental authority case studies. As the 1970-1990 western scientific (WSK) and *te ao Māori/*indigenous knowledge (IK) paradigmatic shifts swung in favour of western science, I argue that this periodic stage of *Aotearoa* hierarchical reflexive modernisation/organised irresponsibility pertained to the initial consolidation of vertical epistemological authority in the mismatched display of institutional nuanced reality. In my comparative analysis, this refers to the benchmarking and impregnating of the reconstruction of institutional consolidation by the late-modern, inter-governmental, environmental worker reflexive self. A more detailed account of my 1970-1990 hierarchical postulations of late-modern synergy and mismatched display of institutional nuanced reality can be found in *Appendices 6.1a,b.*

6.3.3 Correlation of reflexive theory and reflexive practice institutionally 2 and 3

26.
. . . *Māori* indicator development . . . I was involved with the *Hauraki* customary indicator project . . . again the outcome wasn't that good for various reasons . . . certainly the earlier work I was involved in, however, very impressed in again making that bridge between traditional *Māori* knowledge and western science . . . (policy maker research participant - Environment *Waikato,* 2003/key informant 2).

27. (restated, Chapter 5)
The initial desire of the Ministry for the Environment to convene a group of *'Māori'* experts who would input *Māori* concerns and ideas into EPI methodology is faulted. Such a plan does not comply with the Treaty of *Waitangi* (and the Partnership-2 Cultures Development model) and represents the attempted acquisition by one paradigm of knowledge created by another without due consideration of the paradigm within which that knowledge is created. The 'strand-by-strand' method employed by the Ministry represents a paradigm and the Ministry is attempting to acquire *Māori* knowledge by applying this paradigm. Without recourse to the Treaty of *Waitangi* and a properly mandated negotiation, such a move would create improper acquisition (Ministry for the Environment, 1998c: 28).

> *28. (restated, Chapter 5)*
> The EPI programme and *Māori* . . . It is the view of this panel that there are numerous faults in this methodology . . . Its major fault is that it is not based upon the Treaty of *Waitangi.* Further, it represents an attempt to 'fit' *Māori* concerns into the Ministry's methodology (particularly the 'strand' concept) with little or no discussion . . . (Ministry for the Environment, 1998c: 9).

> *29. (restated, Chapter 5)*
> The purpose of this study was to develop a tool to facilitate the input and participation of *iwi* into land and water management processes and decision making. The result is the Cultural Health Index (CHI) for streams, developed by linking western scientific methods and the cultural knowledge about stream health . . . *(Tipa* et al., 2003: vii).

Thereof (as illustrated in the above multi-reflexivity case example commentaries numbered 26-29), vertical authority reined thereafter; that is,

- In the 1990-1998 environmental monitoring sub-stage of the immediate consolidation of vertical authority, based on the stabilised reconstruction of institutional consolidation by the environmental worker reflexive self, as demonstrated in the above multi-reflexivity case examples numbered 26 and 27.

In my comparative analysis inter-governmentally, the 1990-1998 WSK and IK paradigmatic shifts underpinning MfE (1996; 1997), EW (1996; 1998), TDC (1998; 1999); ODC (1996) and TCDC (1997) *Aotearoa* environmental governance/management regimes, with specific regard to EPI development *(Table 6.4)* lean in favour of western science. For example, there are significant gaps in *Kaupapa Māori* research considerations in the development, implementation and follow-up of research proposals, topics and plans, with specific regard to the ongoing failure to reflexively engage the detraditionalisation of cultural survival and loss, *Māori* reflexivity and late-modern synergy. Consequently, the subtleties of nuanced reality in these research development (as exemplified in the below multi-reflexivity case examples numbered 30, 33 and 34), implementation (as exemplified in the below multi-reflexivity case examples numbered 31, 33 and 34) and follow up

(as exemplified in the below multi-reflexivity case examples numbered 32, 33 and 34) stages remain unrealised.

30. (restated, Chapter 5)
Consultation Process . . . At the outset it is important to emphasise that while the word 'consultation' is used . . . it is not consultation in the fullest sense as *hapu, iwi* and *Māori* generally understand it. It would be more accurate to describe the . . . project as a communications exercise with *hapu, iwi* and *Māori,* to brief them on the EPI Programme and to seek their preliminary views . . . (Gardiner et al., 1998a: 6).

31. (restated, Chapter 5)
The 'late' establishment of the *Māori* Environmental Management Group (MEMG), well after the ground process of information collection for the various strands was under way . . . (Gardiner et al., 1998a: 4).

32. (restated, Chapter 5)
Given the very tight framework of the project it is not surprising that much of the input from *hapu, iwi* and *Māori* was often in an unrefined form. Many of the ideas expressed about potential indicators, especially at *hui,* were rarely well informed or deeply thought out . . . (Gardiner et al., 1998a: 12).

33.
. . . yes I think that there has been a change around by simply being exposed to *Māori* ideas . . . in the strand work when the scientists were provided with the background from a *Tuwharetoa* perspective . . . they thought that was very good it gave them a deeper appreciation of *Māori* tradition . . . (policy research participant - Ministry for the Environment, 2003/key informant 2).

34.
. . . you see . . . they come from a culture where they don't have to do that . . . you stand up . . . you don't take any **** from anybody . . . if anybody gives you any **** then you do something with it but you don't accept it . . . generally you give it back to them or you just walk away . . . and that's the sort of culture that's a centre metre high in my reckoning of things . . that as opposed to that what we are re-building New Zealand as a community. . . we know what the rest of the world is like and what the rest of the world has done . . . and we should realise that New

Zealand is a special place and that we've got a lot of head starts . . . and that if we're that aware of a few things then we could not go down the bad road that some of these other countries have taken . . . that we've really got a choice place here . . . so bearing that in mind . . . whenever your talking to people about creating a better environment you've got to know that all that stuff will come into bear . . . you've got to handle it . . . or find a way of reconciling it peacefully within yourself so that you can get them to join up with the *kaupapa* . . . because people are always into their *kaupapa* . . . you know of wanting to make it a better environment . . . you know there would only be a few who don't give a **** . . . need to tap into them . . . and that's our job really . . . taping in to peoples desires to do something better. . . you know . . . reconciliation requires acceptance . . . you've got legislative acceptance . . . you need political acceptance now . . . then you've got to have public awareness . . . public acceptance . . . then you've got us . . . we've got to want it . . . we obviously do . . . we've got to have the means to express it . . . we're a bit short on that . . . that's the business end of things . . . you know . . . we've got a lot of people that we know . . . that yeah this is our relationship with the environment . . . but we haven't made those kind of decisions and there the sort of decisions that *tangata whenua* . . . *kaitiaki* make that would influence actions in the wider world . . . we haven't had to make those sorts decisions for a long time . . . so we need to get into the practice of *kaitiakitanga* . . . and you need some sort of economic base . . . support . . . and we need more people thinking that way and acting that way and then you'll see results I think . . . *(iwi* liaison research participant - Environment *Waikato,* 2003/key informant 5).

- In the 1998-2001 environmental monitoring sub-stage of the immediate consolidation of vertical authority, based on the vertical accommodation of alternatives through the reconstruction of institutional consolidation by the environmental worker reflexive self, as demonstrated in the above multi-reflexivity case examples numbered 26 and 28.

In my comparative analysis inter-governmentally, the 1998-2001 WSK and IK paradigmatic shifts underpinning MfE (1998; 1999), EW (1999; 2000), TDC (1997-2001), ODC (1996-2001) and TCDC (1999-2001) *Aotearoa* environmental governance/management regimes, with specific regard to EPI

development *(Table 6.4),* additionally lean in favour of western science. For example, there are considerable gaps in official discourse which is under-theorised with specific regard to comparative, evolutionary, cross-cultural, inter-disciplinary and multi-dimensional research on both knowledge/value systems. Consequently, the subtleties of nuanced reality in these research domains (as exemplified in the below multi-reflexivity case examples numbered 35 and 36) also remain unrealised.

> *35.*
> . . . generally . . . I find it very enlightening and great to work together with *Māori* . . . however . . . I don't really get enough opportunity for that . . . I haven't really had a lot of opportunity to work with *Māori* on indicators because most of the work is quite separate . . . they go away and talk with their own people . . . it's often quite difficult to be part of that . . . shut out . . . but whenever I have an opportunity have really learnt a lot from local *kaitiaki* about traditional *Māori* knowledge . . . especially impressed with the spirituality and strong values that come out . . . (policy research participant - Ministry for the Environment, 2003/key informant 3).

> *36. (restated, Chapter 5)*
> Participants were reluctant to agree to a categorisation of information into convenient boxes for the purposes of 'meeting western science logic'. Attempts at utilising the formats proposed by the Ministry were equally unsuccessful. In part there was fear amongst *Māori* participants of 'selling out' without consulting their *kaumatua* and *kuia* and their *hapu* and *iwi.* It was therefore much easier to park the problem for the time being and try to seek for ways to develop a process that made them comfortable (Gardiner et al., 1998a: 3).

- In the 2001 onwards environmental monitoring sub-stage of the follow on consolidation of vertical authority, based on the consolidated vertical accommodation of alternatives through the reconstruction of institutional consolidation by the environmental worker reflexive self, as demonstrated in the above multi-reflexivity case examples numbered 26 and 29.

In my comparative analysis inter-governmentally, the 2001 onwards WSK and IK paradigmatic shifts underpinning MfE (2003), EW (2000-2003), TDC (2002), ODC (2003) and TCDC (1999-2003) *Aotearoa* environmental governance/management regimes, with specific regard to EPI development *(Table 6.4),* also lean in favour of western science. For example, there are considerable gaps in official discourse on *te ao Māori,* which fails to provide robust, scientifically sound and credible research that validates the contemporary phenomenon of *kaitiakitanga* in terms of the synergistic capacity of *te ao Māori/*indigenous knowledge, *ngā tikanga, Māori* reflexivity, and detraditionalisation. Ineffectively, the subtleties of nuanced reality in these research areas (as exemplified in the below multi-reflexivity case examples numbered 37 and 38) additionally remain unrealised.

> *37.*
> . . . more and more balance is coming through . . . both *Māori* and *Pākehā* . . . you know . . . *Pākehā* to understand and appreciate traditional expertise and to incorporate that into modern day practices and positions . . . from both sides (planner research participant - Ministry for the Environment, 2003/key informant 4).

> *38.*
> . . . I guess what I have talked about a lot is the cause and affect of the science explanation . . . the other part of the information is what do you do about that . . . what sort of changes do you make and how do you make them . . . and I think that's where the integration comes . . . I actually think that *Otorohanga* District Council is pretty mindful though that we are going to have to defend this in the Environment Court . . . and so we rely on scientific measurements rather than observations for proof in court . . . though I think that it's good to take note of peoples observations . . . and that's why I'd make a distinction between observations from lay people and that the reasons why *Otorohanga* District Council would choose to use scientific information and observations . . . for example . . . people have emailed us or written in and we have kept records of all of those observations . . . and that sort of stuff is really powerful for particularly for politicians to hear and I think it is also important for other people in meetings to hear . . . that it's not just something in a tube that your measuring but that it's something that people experience, remember and care deeply and passionately about . . . and talk to each other about what they see . . . that's where I think the integration might come from . . .

would be what do you do with the information and that's where the less scientifically rigorous information comes in most good use I think . . . (planner research participant - *Otorohanga* District Council, 2003/key informant 1).

Taken together, I propose that such reflexive processes between discourses stabilised, accommodated and consolidated vertical supremacy during the 1990-2001 onwards evolutionary time period of *Aotearoa* environmental governance/management, with specific regard to EPI development. As the 1990-2001 onwards WSK and IK paradigmatic shifts swung in favour of western science, I argue that these periodic stages of *Aotearoa* hierarchical reflexive modernisation/organised irresponsibility pertained to the immediate and follow on consolidation of vertical epistemological authority in the mismatched display of institutional nuanced reality. In my comparative analysis, this refers to the stabilising, accommodating and consolidating of the reconstruction of institutional consolidation by the late-modern, inter-governmental, environmental worker reflexive self. A more detailed account of my 1970-2001 onwards hierarchical postulations of late-modern synergy and mismatched display of institutional nuanced reality can be found in *Appendices 6.1a,b*.

In summary, this section presented my comparative analysis on hierarchical applications of reflexive practice in the five environmental authority case studies, focusing on the correlated findings of potential late-modern synergy under the epistemological leaning toward growth over conservation. After I introduced the theory-practical conceptual model from which hierarchical applications of late-modern synergy were compared, reflexive practice was correlated with reflexive theory institutionally (and the reverse).

6.4 Conclusion

In conclusion, *Chapter 6* additionally contributed to *Part 2* (Balance of Values) of the thesis and introduced my theoretical articulation of reflexive practice on the practical side of nuanced problem solving. In the chapter, I reported on the growth over conservation correlated finding of late-modern synergy from the search for synergistic balance in the reflexive practice of inter-governmental institutional environmental governance and the five environmental authority

case studies. Such subtleties of reflexive practice are next compared from the search for synergistic balance in cross-tribal local river *kaitiakitanga* and the three *Māori* river community case studies *(Chapter 7)*.

Therefore, in *Chapter 6,* I provided original *Māori* And/Also theory empirical/analytical research on the search for synergies between *te ao Māori/*indigenous knowledge and western scientific knowledge through my comparative analysis of the reflexive practice of inter-governmental institutional environmental governance and the five environmental authority case studies under the *Resource Management Act 1991.* As drawn on my comparison of *Māori/*indigenous adaptation to the vertical attributes of *Aotearoa* hierarchical reflexive modernisation and *Aotearoa* hierarchical organised irresponsibility, synergistic value change was emancipated both hierarchically and inter-governmentally in the underpinning verticality epistemological framework of the Westminster-Keynesian system at the national, regional and district levels of *Aotearoa*/national environmental governance and change.

To finalise, my hierarchical postulations of late-modern synergy and *Māori* reflexivity more inter-governmentally and institutionally brought forth the potential synergies between *te ao Māori* and western science in the five environmental authority case studies under the *Resource Management Act 1991*. Lastly *(Chapter 7),* I expand on my local propositions of late-modern synergy and *Māori* reflexivity in cross-tribal local river *kaitiakitanga* and the three *Māori* river community case studies.

Chapter 7
Late-modernity and *Māori* reflexivity -
local applications

7.1 Introduction

Part 2 of the thesis utilises my *Māori* And/Also theorising of nuanced reality and reflexive practice to compare the balance of values in ecological environmental governance. It started with my search for synergistic balance in nuanced reality throughout the evolution of world and national/*Aotearoa* environmental governance and change *(Chapters 4* and *5),* followed by the reflexive practice of the five environmental authority case studies *(Chapter 6).* In *Chapter 7,* I report on my estimated correlated findings of growth and conservation from the search for the balance of values in the reflexive practice of the three *Māori* river community case studies.

In *Chapter 1,* the subtleties of *Māori* river *kaitiaki* identity/values underpinning cross-tribal local river *kaitiakitanga* of the three *Māori* river community case studies under the *Resource Management Act 1991* were identified. In this chapter, I conduct a comparative analysis of the reflexive practice of synergistic value change in the evolution of cross-tribal local river *kaitiakitanga* and the three *Māori* river community case studies under the *Resource Management Act 1991* from a *Māori* And/Also stance. I begin by locating the micro *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum cross-tribally at the evolutionary distinguishing point of the present period. The remainder of the chapter outlines how reflexive processes of late-modern synergy have evolved to the current period of the reflexive reconstruction of *Māori* river *kaitiaki* identity/values at the cross-tribal local river *kaitiakitanga* level of *Aotearoa* synergistic value change in micro late-modernity.

7.2 Micro *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum of cross-tribal local river *kaitiakitanga*

In this section, the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum underpinning the micro documented,

oral and observable data trajectory on cross-tribal local river *kaitiakitanga* is located in evolutionary terms of *Aotearoa* synergistic value change. Before identifying the synergistic potential of cross-tribal local river *kaitiakitanga* along the micro value continuum of the study *(7.2.2)*, I set the *Māori* river user reflexive self locally at the distinguishing point of micro late-modernity *(7.2.1)*.

7.2.1 Consolidated verticality and the Māori river user reflexive self

1.
. . . The *Waitahanui* River is one of the most important elements of the *Taupō* trout fishery . . . The *Oparau* River is mainly used in cattle farming . . . most of the residents here are farmers . . . Aquacultural and agricultural farming . . . those are the main uses of the *Harataunga* River . . . (Gibbs, 2003: 1; *Oparau* river community case study research participant oral data, 2003/key informant 2; and *Harataunga* river community case study research participant oral data, 2003/key informant 3, respectively).

2.
. . . Over 75 years ago the Crown negotiated an arrangement with *Ngāti Tuwharetoa,* the owners of the beds of Lake *Taupō* and its tributaries, to provide for public access to and use of the lake, and fishing access to specified parts of the rivers. In return for the access, the *iwi,* through the *Tuwharetoa Māori* Trust Board, receives an annual payment from the Crown equivalent to half the revenue from fishing licences and boating fees. This agreement was cemented in the *Māori* Land Amendment and *Māori* Land Claims Adjustment Act of 1926 . . . So anglers are legally entitled to fish the length of the *Waitahanui* River regardless of tenure . . . and to walk on its bed and traverse its banks on foot . . . anywhere within the 20m ROW. . . (Gibbs, 2003: 1, 3).

3.
. . . A large export trade from the *Kāwhia* area was done in wheat. The wheat was grown by the *Māori* . . . and was shipped in *Māori* kits, each containing about a bushel . . . The mills were built under direction of European millwrights and the *Māori* supplied the labour to build the mill dams, etc. The *Oparau* saleyards were built by the Farmers' Auctioneering Co. in 1914, and Dalgetys mainly on the open land, largely in scrub and fern where the bush had been cleared for farming many years ago . . . One of the first farms was that of the Morgan's and their cousins, the Forbes and Langleys, who had land on the Western bank of the *Oparau* River . . . *(Otorohanga* Centennial Reunion Committee, 2003: 11, 15).

> *4.*
> . . . As European settlements grew in the *Hauraki* region, Kennedy Bay became an important food-producing area. The local *Māori* grew a variety of produce, much of which was they shipped to Auckland. During the early part of the 20th century, dairy farming, fishing and crayfish were important, but now mussel aquaculture and cattle and sheep farming are the main industries, along with fishing . . . (Inch, 2002; 11 - 12).

As transcended in reflexive practice socio-culturally, late-modern synergy was comparatively analysed at an evolutionary time point of the consolidated verticality in *Waitahanui,*[142] *Oparau*[143] and *Harataunga*[144] local river *kaitiakitanga*. This growth over conservation correlated finding of late-modern synergy was theorised in the search for good ecological governance between the underpinning local vertical western science and multiple *te ao Māori* espistemological frameworks. Cross-tribally, my proposition relates to the local dominance of official discourse, as theorised by reference to the verticality attributes of local vertical governance, the local official and non-official discourse distinction and local informational reflexivity. My summary charts are provided in *Tables 7.1a,b.* Background information on my local postulations of late-modern synergy and the mismatched display of socio-cultural nuanced reality can be found in *Appendices 6.1a,b.*

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[142] My references on *Waitahanui* cross-tribal local river *kaitiakitanga* include: Cooper, 1989; Department of Conservation, 2003a; 2003b; Draper, 1969; Gartner, 1991; Gibbs, 1996; 1999; 2001; 2002; 2003; Grace, 1959; Greenfield, 1996; Hadfield, 1995; Hintz; 1955; 1975; *Maniapoto,* 2003; *Ngāti Tuwharetoa Māori* Trust Board, 2003; Stokes, 1991; *Waitahanui* Angling Improvement Association Incorporated, 2003; and *Waitahanui* river community case study research participant data file, 2003. Observational data on the *Waitahanui* empirical fieldwork research can also be found in *Appendices 7.2a,b,c.*

[143] My references on *Oparau* cross-tribal local river *kaitiakitanga* include: Bass, 1993; Craig, 1978; Cummins, 2004; Flemming, 1959; Jones, 1993; Jones et al., 1995; *Kingi,* 2001; Marr, 1996; 1999; Mitchell et al., 1989; *Oparau* river community case study research participant data file, 2003; *Otorohanga* Centennial Reunion Committee, 1993; 2003; Parsonson, 1973; Perry, 1930; Phillips, 1989; 1995; Robertson, 1989; Smith, 1982; *Tainui* River Report, internal; 2003; and Woolford, 1998. Observational data on the *Oparau* empirical fieldwork research can also be found in *Appendices 7.3a,b,c.*

[144] My references on *Harataunga* cross-tribal local river *kaitiakitanga* include: Coromandel History Society, 2002; Grayland et al, 1965 *Harataunga* river community case study research participant data file, 2003; Hutton, 1995; Inch, 2002; Kennedy Bay School Centennial Historical Record - 100 years in the bay, 1894 - 1989; *Mahuika*, 1973; Martin, 1986; Matheson, 1999; Mayhead, 1994; 1995; *Ngāti Porou ki Harataunga,* 1999; 2000; Nicholls, 1958; Nolan, 1977; Pacific Asia Travel Association, 1991; Sewell, 2000; White, 2001; and Williams et al., 1994. Observational data on the *Harataunga* empirical fieldwork research can also be found in *Appendices 7.4a,b,c.*

**Table 7.1a   Theoretical framework of local official discourse -
summary chart**

- Theoretical attributes of local vertical governance:

  - the local vertical 'tree top' sovereign authority and power structure;

  - the local vertical 'gesellschaft' control bureaucracies ('steering' and 'rowing'); and

  - the local vertical 'single voice' representation.

- Theoretical attributes of the local vertical official and non-official discourse distinction:

  - the local vertical technological authoritarianism and specialisation viewpoint;

  - the local vertical commodified intellectual property viewpoint; and

  - the local vertical pre-modern assumptions viewpoint.

- Theoretical attributes of local vertical informational reflexivity:

  - the local vertical shallow, short termed and commodified output approach*;*

  - the local vertical exploitative legacies approach; and

  - the local vertical non-incorporation and non-participation approach.

Table 7.1b   Theoretical framework of local non-official discourse
                    - summary chart

- Theoretical attributes of local multiple governance:

    -    the local multiple 'polyarchy' multi-dimensionality and holism structure;

    - the local multiple 'gemeinschaft' communal and collective inter-connections; and

    - the local multiple 'collective voice' representation.

- Theoretical attributes of the local multiple official and non-official discourse distinction:

    - the local multiple 'time immemorial' and experiential viewpoint;

    - the local multiple intrinsic value viewpoint; and

    - the local multiple socio-cultural and biological diversity viewpoint.

- Theoretical attributes of local multiple informational reflexivity:

    - the local multiple deep, long termed and authentic assessment as outcomes approach;

    - the local multiple reciprocal and benefit sharing approach; and

    - the local multiple traditional ecological and adaptive knowledge and expertise approach.

As demonstrated in the above commentaries numbered 1 - 4, local official discourse predominates over local non-official discourse in the *Waitahanui, Oparau* and *Harataunga* river users reflexive reconstruction of identity/values, termed 'river user reflexivity'. For my research purpose of comparing these reflexive processes of late-modern synergy cross-tribally, the phrase 'local applications of consolidated verticality' is employed. To illustrate (see the above commentaries numbered 1 - 4), this refers to the dominance of local

official discourse through the local *Waitahanui* tree top vertical sovereign authority and power structure (as exemplified in the first comments of the passage numbered 1 and in the passage numbered 2 by the *Waitahanui* river users), the local *Oparau* vertical exploitative legacies approach (as exemplified in the second comments of the passage numbered 1 and in the passage numbered 3 by the *Oparau* river users) and the local *Harataunga* local vertical shallow, short termed and commodified output approach (as exemplified in the third comments of the passage numbered 1 and in the passage numbered 4 by the *Harataunga* river users).

I postulate that local western scientific knowledge and *te ao Māori/*indigenous knowledge paradigmatic shifts in favour of western science were at the crux of river user reflexivity. In my cross-tribal research participant sample (total = 58), this is theorised by reference to the local terms of 'related *kaitiakitanga'*, 'semi-related *kaitiakitanga'* and 'non-related *kaitiakitanga'*.

Waitahanui (total = 23), *Oparau* (total = 0) and *Harataunga* (total = 18) related *kaitiakitanga* refers to river use activities of river user reflexivity on WSK and IK paradigmatic shifts of the the use and non-use of western science and *tikanga* in the *Māori* people-environment relationship. Such river user reflexivity relates to local *kaitiaki* that hold local residency and land ownership.

Waitahanui (total = 0), *Oparau* (total = 2) and *Harataunga* (total = 0) semi-related *kaitiakitanga* refers to related river use activities of river user reflexivity after the prior established WSK and IK paradigmatic shifts in favour of western science. Such river user reflexivity relates to local *kaitiaki* that hold either local residency, and non-land ownership or land ownership and non-local residency.

Waitahanui (total = 0), *Oparau* (total = 8) and *Harataunga* (total = 0) non-related *kaitiakitanga* refers to non-related river use activities of river user reflexivity after the prior established WSK and IK paradigmatic shifts in favour of western science. Such river user reflexivity relates to local *kaitiaki* that hold non-land ownership and non-local residency. My summary charts are provided in *Tables 7.2a,b,c.*

Table 7.2a   Postulated local terms of river user reflexivity and the
Waitahanui **research participant sample - summary chart**

Terms of reference	No. *Māori* river users (total = 23)	No. of *Pākehā* river users (total = 4)
related	**23**	**4**
semi-related	0	0
non-related	0	0
Totals of research sample	**23**	**4** Total = 27

Table 7.2b   Postulated local terms of river user reflexivity and the *Oparau*
research participant sample - summary chart

Terms of reference	No. *Māori* river users (total = 10)	No. of *Pākehā* river users (total = 3)
related	0	**3**
semi-related	**2**	0
non-related	**8**	0
Totals of research sample	**10**	**3** Total = 13

Table 7.2c   Postulated local terms of river user reflexivity and the
Harataunga **research participant sample - summary chart**

Terms of reference	No. *Māori* river users (total = 14)	No. of *Pākehā* river users (total = 4)
related	**14**	**4**
semi-related	0	0
non-related	0	0
Totals of research sample	**14**	**4** Total = 18

7.2.2   Synergy and local impacts of socio-cultural consolidation

> 5.
> . . . As much of the land is low-lying and will not comply
> with residential requirements it will have little productive
> use. I believe that the Local Authority states that if
> application is made for subdivision for residential
> purposes the Council will require esplanade and stream
> reserves laid off and this will be without payment or
> compensation . . . These *Waitahanui* lands are zoned as
> reserves and as such cannot be used by the owners. In
> addition there is a statutory walk-way across the land
> imposed by the 1926 Statute creating walkways around
> the lake and up the banks of the rivers and streams
> feeding the lake . . . *Taupō* Minute book Volume 62

folios 324-356, p. 3 - 4 . . . (Cited in Gibbs, 2003: 18 - 19).

6.
. . . In The Matter of A claim by . . . relating to *Ngāti Hikairo* Iwi, . . . *Oparau* River . . . *Oparau - Te Tupuna Awa* . . . THE *Oparau* River is a *tupuna awa* . . . has special status because it flows off our sacred Mountain *Pirongia* . . .THE Crown has failed to Protect the Physical and Spiritual Health of the *Oparau* River . . . THE Crown has, both directly and indirectly, caused, permitted or allowed the degradation of the spiritual and physical health of the *Oparau* River through: Water extraction for irrigation and other uses; Pollution by sewage, farming effluent, rubbish dumping, pesticides and herbicides, heavy metals, and other harmful contaminants . . . *(Oparau* river community case study research participant data file, 2003: 7 - 9 /key informant 2).

7.
. . . All Water Right Holders . . . Scale of Charges . . . Please find attached an invoice for this years scale of charges for the water right held by yourself . . .We object in strongest possible terms the scale of charges for . . . and . . . received 9th May, 2001. Insufficient time given for consultation written submissions to follow. Also as a whole of our catchment area is *Māori* land. *Waitangi* Tribunal has been advised . . . *(Harataunga* river community case study research participant data file, 2003: 79 - 80/key informant 4).

As further illustrated in the above passages numbered 5 - 7, it was these local impacts of vertical epistemological dominance that were the defining feature of the late-modern, cross-tribal *Māori* river reflexive self, termed 'socio-cultural consolidation'. This is more specifically distinguished *(Chapter 3)* at the contemporary period of *Aotearoa* synergistic value change socio-culturally, as follows:

- In the 2003 related *kaitiakitanga*[145] socio-cultural consolidation of the *Waitahanui* river users use and non-use of *te ao Māori* and western science. For example, the dominance of local official discourse is demonstrated through the *Waitahanui* local vertical gesellschaft control

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[145] For further details see the *Waitahanui* research participant sample figures in *Table 7.2a.*

bureaucracies, as depicted in the above passage numbered 5. In *Appendices 7.2a,b,c,* I provide background observational (photographs) and documented data (newspaper items, journal articles, local information, and tourist pamphlets/post cards) on the western capitalist-oriented river use environmental context of *Waitahanui* local river *kaitiakitanga.* A summarised overview is briefly outlined in *Table 7.3*.

Table 7.3   Summarised overview of *Appendices 7.2a,b,c* - Background observable and documented data on *Waitahanui* local river *kaitiakitanga*

Western capitalist-oriented topic areas	*Reference*
• *Waitahanui* capitalist-driven trout fishing river use environmental context	*- 7.2ai - avi*
• *Waitahanui* River official discourse showing the local minimisation of *Māori* river knowledge/values	*- 7.2bi -ix*
• *Waitahanui* River vandalism	*- 7.2ci*
• *Waitahanui* River pollution	*- 7.2civ,v,vi*
• *Waitahanui* River violence	*- 7.2cii,cvii, cviii, cix-cxv*
• *Waitahanui* River materialist growth	*- 7.2ciii*

• In the 2003 related, semi-related and non-related *kaitiakitanga*[146] socio-cultural consolidation of the *Oparau* river users use and non-use of *te ao Māori* and western science. For example, the dominance of official discourse is demonstrated through the *Oparau* local vertical exploitative legacies approach, as depicted in above passage numbered 6. In *Appendices 7.3a,b,c,* I provide background information on the observational and documented data of the western capitalist-oriented river use environmental context of *Oparau* local river *kaitiakitanga.* A summarised overview is briefly outlined in *Table 7.4*.

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[146] For further details see the *Oparau* research participant sample figures in *Table 7.2b.*

Table 7.4   Summarised overview of *Appendices 7.3a,b,c* - Background observable and documented data on *Oparau* local river *kaitiakitanga*

Growth over conservation-related topics	*Reference*
• *Oparau* capitalist-driven agricultural farming river use environmental context	*- 7.3ai ,ii,iii*
• *Oparau* official discourse showing the local minimisation of *Māori* river knowledge/values	*- 7.3bi,ii*
• *Oparau* dominant *Pākehā* land ownership	*- 7.3bii,7.3ci*
• *Oparau* River degradation	*- 7.3cii,iii*

- In the 2003 related *kaitiakitanga*[147] socio-cultural consolidation of the *Harataunga* river users use and non-use of *te ao Māori* and western science. For example, the dominance of official discourse is demonstrated through the *Harataunga* local gesellschaft vertical control bureaucracies, as depicted in above passage numbered 7. In *Appendices 7.4a,b,c,* I provide background information on the observational and documented data of the western capitalist-oriented river use environmental context of *Harataunga* local river *kaitiakitanga.* A summarised overview is briefly outlined in *Table 7.5*.

Table 7.5   Summarised overview of *Appendices 7.4a,b,c* - Background observable and documented data on *Harataunga* local river *kaitiakitanga*

Growth over conservation-related topics	*Reference*
• *Harataunga* capitalist-driven agricultural and aquacultural river use environmental context	*- 7.4ai - aiv*
• *Harataunga* official discourse showing the local minimisation of *Māori* river knowledge/values	*- 7.4bi*
• *Harataunga* River degradation	*- 7.4ci,ii*
• *Harataunga* River vandalism	*- 7.4ciii*
• *Harataunga* River violence	*- 7.4civ,cv*

Overall, I aimed to introduce the micro empirical evidence locally, which confirmed that the reflexive potential of *ngā tikanga tūpato* in conservation

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[147] For further details see the *Harataunga* research participant sample figures in *Table 7.2c*.

over growth, growth over conservation and growth versus conservation was outweighed by the prevailing dominance of material growth in terms of growth over conservation under the *RMA 1991*.

7.3 Evolution of cross-tribal local river *kaitiakitanga* and *Māori* reflexivity- *Aotearoa* local applications of late-modern synergy

This section presents my comparative analysis of reflexive practice in the evolution of cross-tribal local river *kaitiakitanga* and the three *Māori* river community case studies. After introducing the theory-practical conceptual model from which local applications of late-modern synergy are compared *(7.3.1)*, reflexive practice is correlated with reflexive theory locally (and the reverse) *(7.3.2 - 7.3.15)*.

7.3.1 Theory-practical conceptual model for comparing Aotearoa local applications of late-modern synergy

> *8. (restated, Chapter 2).*
> While the politics of the industrial age were fought along a spectrum of left to right, the emerging politics of the biotechnology century is beginning to create a new spectrum, with a belief in the intrinsic value of life on one pole pitted against the belief in its utility value on the other (Rifkin, 1998: vi).

> *9. (restated, Chapter 2).*
> Human genes are being treated by science in the same way that indigenous 'artifacts' were gathered by museums; collected, stored, immortalized, reproduced, engineered - all for the sake of humanity and public education, or so we are asked to believe. One wonders just how far we've actually come. Is this development?
> Is it good science? (Mead, 1996: 46).

> *10. (restated, Chapter 2).*
> The concept of 'organised irresponsibility' helps to explain how the institutions of modern society must unavoidably acknowledge the reality of catastrophe while simultaneously denying its existence, hiding its origins and precluding   compensation or control. To put it another way, risk societies are characterised by the paradox of more and more environmental degradation - perceived as impossible -coupled with an expansion of environmental law and regulation. Yet at the same time, no individual or institution seems to be held specifically

accountable for anything. How can this be? To me the key to explaining this state of affairs is the mismatch that exists in the risk society between the character of hazards or manufactured uncertainties produced by late industrialisation and the prevalent relations of definition which date in their construction and content from an other and qualitatively different epoch . . . I use the metaphor of the social explosiveness of hazard to explain the politicizing effects of risks (definition) conflicts. I explore the ways in which the virtuality, the 'becoming real' of large-scale hazards, risks and manufactured uncertainties set off a dynamic of cultural and political change that undermines state bureaucracies, challenges of dominance of science, and redraws the boundaries and battlelines of contemporary politics. So hazards, understood as socially constructed and produced 'quasi-subjects', are a powerful, uncontrollable 'actor' that delegitimises and destabilizes state institutions with responsibilities for pollution control, in particular, and public safety, in general (Beck, 1999: 150 - 151).

Theoretically therefore (as illustrated in the above commentaries numbered 8 - 10), it seems apparent that *Aotearoa* local applications of reflexive practice correlate with dystopian over utopian leanings of reflexive modernisation more broadly; and social explosiveness of hazard more specifically.

On the local side of the value equation underlying the transition from the relations of production to the relations of definition in reflexive modernisation, Rifkin (1998) and Mead (1996) point out one's own encompassed struggle with growth over conservation in late-modern European hyper-capitalism between resource for survival and resource for life. In my comparative analysis, this pertains to the correlation of growth over conservation locally in western-capitalist driven *Waitahanui* river trout fishing, *Oparau* river agricultural farming and, *Harataunga* agricultural/aquacultural farming, termed *'Aotearoa* local reflexive modernisation' *(Table 6iib).*

The concept of *Aotearoa* hierarchical reflexive modernisation deals with high abstracted transitory processes of late-modern synergy impacting on the *Māori* river user in the reflexive reconstruction of socio-cultural consolidation. As transcended throughout the evolution of world and national environmental governance and change, this relates to the evolutionary time period of *te ao*

*Māori/*indigenous knowledge (IK) and western scientific knowledge (WSK) paradigmatic shifts in favour of WSK from 1840 onwards. For this research purpose, I draw on my prior comparison of *te ao Māori/*indigenous knowledge (IK) and western scientific knowledge (WSK) paradigmatic shifts in the Westminster-Keynesian system (WKS) stages of national/*Aotearoa* environmental governance and change, as briefly outlined in *Tables 7.6a,b.*

In conjunction, I also present a comparative analysis of selected historical events on *Aotearoa* local applications of reflexive practice in the evolution of socio-cultural consolidation and the three *Māori* river community case studies. My summary chart is provided in *Tables 7.7a,b.*

Table 7.6a   Comparative analytical framework of WKS western scientific paradigmatic shifts in the evolution of socio-cultural consolidation and the three *Māori* river community case studies - summary chart

time periods	evolutionary stages	periodic meanings
WKS periodic stage 1 - INVASION OF VERTICAL AUTHORITY		
• 1800 -1900: • 1800-1830 • 1830-1860 • 1860 - 1900	- vertical invasion: - initial settlement and trade - progressive invasion - built in invasion	- infiltration of vertical supremacy
WKS periodic stage 2 - BUILD UP PERIOD OF VERTICAL AUTHORITY		
• 1900 - 2000: • 1900 - 1950 • 1950 - 2000	- build up: - accelerated growth - consolidated growth	- acceleration and consolidation of vertical supremacy

<p align="center">***Table 7.6a   continued***</p>

time periods	evolutionary stages	periodic meanings
WKS periodic stage 3 - BUILD ON PERIOD OF VERTICAL AUTHORITY		
• 2001 onwards	- build on	- follow on consolidation of vertical supremacy

Table 7.6b   Comparative analytical framework of WKS *te ao Māori* paradigmatic shifts in the evolution of socio-cultural consolidation and the three *Māori* river community case studies - summary chart

time periods	evolutionary stages	periodic meanings
WKS periodic stage 1 STRONGHOLD PERIOD OF *TE AO MĀORI*		
• Before 1840: • 950-1300 • 1300-1700 • 1700-1840	- stronghold: - migration and initial settlement - established settlement - contact	- pre-breakdown of the *Māori* people-environment relationship
WKS periodic stage 2 BREAKDOWN PERIOD OF *TE AO MĀORI*		
• 1840 - 1970: • 1840 - 1900 • 1900 - 1970	- breakdown: - accelerated breakdown - sustained breakdown	- immediate breakdown of the *Māori* people-environment relationship

Table 7.6b   continued

time periods	evolutionary stages	periodic meanings
WKS periodic stage 3 RENAISSANCE PERIOD OF *TE AO MĀORI*		
• 1970 onwards	- renaissance	- post-breakdown of the *Māori* people-environment relationship

Table 7.7a Selected historical events in IK paradigmatic shifts of *Aotearoa* **local reflexive modernisation in the evolution of socio-cultural consolidation and the three** *Māori* **river community case studies - summary chart**

Waitahanui MCS	*Oparau* MCS	*Harataunga* MCS
Before 1840: Stronghold period		

1400 Te Arawa waka
1600 Tuwharetoa
> 1600 Ngāti
       Tuwharetoa
	> 950 Kupe
	1350 Tainui
	1600s Hikairo
	> 1600 Ngāti Hikairo
	1790 Hingakaka
		> 950 Maui & Paikea
		1600s Porourangi
		> 1600 Ngāti Porou
		> 1600 Ngāti Huarere:
		       Nga Puhi

1840 - 1970: Breakdown period		

1850 Paramount chief
 	
1860s Te Kooti
 	
1869 Armed
       constabulary
> 1869 Resettlement
	1859 Kingitanga
	> 1863 Waikato land
	       wars
	> 1881 District closed
	
	1883 Armed
	       constabulary
	> 1890 Resettlement
		1800s Ngāti Porou ki
		       Harataunga
		
		- Paora te Putu
		>1852 Te Rakahurumai
		
		1878 Armed
		       constabulary
		> 1878 Resettlement

1970 onwards: Renaissance period		

< 2003 Desettlement:
       under claim
       processes
	< 2003 Desettlement:
	       under claim
	       processes
		<2003 Desettlement:
		       under claim
		       processes

Table 7.7b Selected historical events in WSK paradigmatic shifts of *Aotearoa* **local reflexive modernisation in the evolution of socio-cultural consolidation and the three** *Māori* **river community case studies - summary chart**

Waitahanui MCS	*Oparau* MCS	*Harataunga* MCS
1800 - 1900: Invasion period		
> *1830s* missionaries > *1830s* farming > *1880 - 1900* > trout fishing, tourism	> *1800* sealine trade > *1834* missionaries > *1830 - 1880* trading post, flour milling > *1890 - 1900* *Oparau* land/farming take over	> *1800* coastline trade > *1800 - 1840* timber milling > *1836* missionaries > *1860 - 1880* goldmining *1894* Kennedy Bay native school opens
1900 - 2000: Build up period		
1901 *Waitahanui* native school opens > *1900 - 30 Waitahanui* trout fishing, tourism > *1920s* forestry, farming, timber milling > *1960s* thermal development	*1902* *Oparau* native school opens *1900 - 1960* *Oparau* river ferry service/ timber milling, tourism, mail service, meatworks *1972* Ironsands project *1998* Forestry	> *1900 - 1960* agricultural development > *1980* sub-subsistence initiatives - kiwifruit farming, fishing, tourism, agricultural farming
> *2000: Build on period*		
> *2000* *Pākehā* tourism, trout fishing, thermal development and forestry	> *2000* *Pākehā* farming and tourism	> *2000* *Māori* aqua-cultural and agricultural farming

In Becks (1999) postulated dichotomy on the mismatch of socio-cultural institutions of late-modernity, I employ the term *'Aotearoa* local social explosiveness of hazard'*, which deals with medium abstracted transitory processes of late-modern synergy impacting on the *Māori* river user in the reflexive reconstruction of socio-cultural consolidation. In Becks (1999) terms, *Aotearoa* local social explosiveness of hazard tells the story of the structured hegemony of *Aotearoa* local reflexive modernisation in transitory processes of late-modern synergy between the relations of production, termed *'Aotearoa* local relations of production', and the relations of definition, termed *'Aotearoa* local relations of definition'.

Such reflexivity is compared at a collective or representative level, termed 'collective cross-tribal reflexivity' and at a specific case example level, termed 'diverse/multi-reflexivity'; that being,

- *Collective cross-tribal reflexivity level 1/* vertical and/also multiple governance -

Diverse/multi-reflexivity case examples:

- local subtleties of the vertical tree top sovereign authority and power structure (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 2), and/also the multiple polyarchy multi-dimensionality and holism structure (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 6);

- local subtleties of vertical gesellschaft control bureaucracies (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 7), and/also the multiple gemeinschaft communal and collective inter-connections (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 3); and

- local subtleties of vertical single voice representation (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 5), and/also multiple collective voice representation (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 6).

- *Cross-tribal institutional reflexivity level 2/* vertical and/also multiple official and/also non-official discourse distinction -

Diverse/multi-reflexivity case examples:

- local subtleties of the vertical technological authoritarianism and specialisation viewpoint (as illustrated in *Appendix 7.2cx),* and/also the multiple time immemorial and experiential viewpoint (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 6);

- local subtleties of the vertical commodified intellectual property viewpoint (as illustrated in the above commentary numbered 7), and/also the multiple intrinsic value viewpoint (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 6); and

- local subtleties of the vertical pre-modern assumptions viewpoint (as illustrated in *Appendix 7.3bi),* and/also the multiple socio-cultural and biological diversity viewpoint (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 6).

- *Collective cross-tribal reflexivity level 3/* vertical and/also multiple informational reflexivity -

Diverse/multi-reflexivity case examples:

- local subtleties of the vertical shallow, short termed and commodified output approach (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 7), and/also the multiple deep, long termed and authentic assessment as outcomes approach (as illustrated in the above diverse/multi-reflexivity case example commentary numbered 6);

- local subtleties of the vertical exploitative legacies approach (as illustrated in *Appendix 7.2cxii),* and/also the multiple reciprocal and benefit sharing approach (as illustrated in *Appendix 7.2biii);* and

- local subtleties of the vertical non-incorporation and non-participation approach (as illustrated in *Appendix 7.2bv),* and/also the multiple traditional ecological and adaptive knowledge and expertise approach (as illustrated in *Appendix 7.2biii).*

My key focus is on the mismatched display of the subtleties of nuanced reality between them, as briefly covered in the remainder of the chapter.

7.3.2 *Toward an articulation of the nuanced reality of Māori reflexivity cross-tribally - introductory propositions*

11.

. . . fairly steep learning curb for us at Environment *Waikato* to figure out learn about the inter-relationships . . . and the personalities and the tensions between the trust board and the trusts and also what the relationship is with the *hapu* groups . . . our key contact point is at the trust board level as the *iwi* reps . . they do the same thing in other councils . . . focus at the board level . . . (policy maker research participant, Environment *Waikato*, 2003/key informant 2).

12.

. . . I'm interested in your close link to *, the local representative for *Waitahanui* . . . he attended one of our consultation *hui* and never came back very sad . . . I wasn't there . . . but it was followed up in the debriefing meeting . . . appears there was a miscommunication problem . . . * the chair of the farmer representative group said something that I think was taken the wrong way . . . I'm sure that * didn't mean that to imply that he was trying to represent *Tuwharetoa* but he said that the *Taupō* Lake Care which is a group of farmer reps included 85 percent of landowners in most of *Tuwharetoa* . . . I think * took it the wrong way. . . (planner research participant, *Taupō* District Council, 2003/key informant 2).

13.

. . . I actually think that in terms of a whole region it is really hard because your talking about so many different communities of interest . . . and you can't just lump all *Māori* for the region and you just can't lump them into different *iwi* . . . I think that one good thing that at least our regional plan does is that it says that yes there are different *iwi* and yes each *iwi* has different concerns . . . so yet that's a good thing . . . it's a start . . . but underneath that know there's a whole complex lot of stuff where you've got conflicting needs and demands and lots of different groups and it's hard and from a regional planning point of view I think its nearly dam impossible actually, cause you can't in one document try and encapsulate everything and that's the problem with all regional planning and it's just generalised and it comes down everything, but at least there's a signal there that yes we do need to talk individually (policy maker research participant, Environment *Waikato*, 2003/key informant 3).

To review, as the above multi-reflexivity case example commentaries numbered 11 - 13 illustrate, there is a considerable gap of knowledge on the subtleties of *Māori* peoples' embedded coexistence with *Pākehā* culture,

western science and discourse socio-culturally under the *Resource Managemnt Act 1991,* which is theorised by reference to the mismatched display with the nuanced reality of the *Māori* people-environment relationship in the *Aotearoa* local relations of definition.

Therefore, it is important to begin with a brief explanation of these subtleties *(7.3.3 - 7.3.10),* as a conceptual basis for the comparative analysis that follows *(7.3.11 - 7.3.15).*

7.3.3   *Māori reflexive strategies of the use and non-use of tikanga and western science*

14.
. . . *tikanga* . . . is not a concrete thing even though people say you've got to do things this way because that's the way it is done . . . well . . . I know for a fact that our *tipuna* didn't do things any given way . . . they did it for specific reasons but then if those reasons didn't help the *kaupapa* then they didn't do it that way . . . then there are those who will always get caught in rope learning . . . but I think beyond it all as I was always taught as a kid as long as you have good intentions or *'kia tika te ngakau'* then you can change things . . . they are there to be changed . . . they were there to be evolved . . . they weren't there to be codified and set in concrete . . . *(Harataunga* river community case study research participant oral data, 2003/key informant 2).

15.
. . . crayfish (koura or *kewai)* . . . paranephrops planifrons . . . science name . . . and freshwater shrimps are abundant in the upper reaches of the *Harataunga* river . . . They are never taken as food . . . The evidence of a healthier river, starting with the lower reaches . . . whitebait . . . glaxis masculatus . . . is plentiful because egg laying among river rushes and plants on the river edges are not tramped by stock . . . One of the upper river secrets is the presense of the giant *kokopu* the largest of the glaxais . . . Another important feature is Archeys frog . . . fiopelma archeyi . . . is found around the headwaters of the *Harataunga* . . . *(Harataunga* river community case study research participant oral data, 2003/key informant 4).

The focal point of my comparative analysis on the nuanced reality of *Māori* reflexivity socio-culturally in *Aotearoa* local relations of definition is both the

Māori river *kaitiaki's* use and non-use of western science and *tikanga* in cross-tribal local river *kaitiakitanga* under the *Resource Managemnt Act 1991,* as illustrated in the above diverse/multi-reflexivity case example statements numbered 14 and 15 *(Harataunga* key informants, 2003).

However, a considerable gap of knowledge on the nuanced reality of *Māori* reflexivity also exists at the socio-cultural level of *Aotearoa* local reflexive modernisation and *Aotearoa* local social explosiveness of hazard.

I start with the general, followed by the more speficic terms of reference of my comparison of such reflexivity as the distinguishing point of micro late-modernity in the transition from *Aoteraoa* local relations of production to *Aotearoa* local relations of definition. For this research purpose, I ultilise my comparative analysis of local vertical and/also multiple governance, local vertical and/also multiple official and non-official discourse distinction and local vertical and/also multiple informational reflexivity, as follows.

7.3.4 Aotearoa local relations of definition and multiple governance - the te ao Māori stronghold; and collective and specific diversity

> 16.
> . . . *Māori* perception or belief in *Māori* value, it is real deep . . . runs deep . . . it runs deep within your *whakapapa* . . . it runs deep with your *mana whenua* status . . . and it runs deep within your spirituality . . . so to actually say what does that mean . . . this is what it means . . . god created all things . . . he gave this and he gave that . . . so the river or the *wai* has got a spiritual connotation to it . . . so that the value is this . . . how do would we describe value ay . . .question . . . how would we describe value . . . for me . . . as *Māori* I would say this '*Koina te mana, te wehi, mo taku ahua, mo taku whakaaro, mo taku ngakau' ne* and that straight way, that's depth . . . *ne* in what is *Māori* value . . . so across the water of the *Waitahanui* river . . . what does the word *Waitahanui* mean *ne*? Also, is this the *Waithanaui* of old . . . that is in name I'm talking about . . . see . . . we have many *Waitahanui's* . . . so . . . why was the name *Waitahanui* placed on this river? . . . and straight away it tells me this is a big *take* . . . a big *take* . . .why they would put this name on this waterway? . . . so . . . where does this water come from? . . . where does it come from? It crosses the lands of the *Tauhara* Middle . . . it crosses the lands of

> *Wharetoto* . . . it crosses the lands of *Te Matai* . . . it crosses the lands of *Runanga* . . . see . . . now straight away . . . the waters in relation to the value . . . *ne* . . . is the tears ne the tears of all our *tipuna's* right through back to its source . . . so I suppose if you want to know in relation to the value that's what it represents . . . *(Waitahanui* river community case study research participant oral data, 2003/key informant 9).

At the cross-tribal multiple governance level of *Aotearoa* local relations of definition, I argue that it is the socio-cultural affiliated links between *Māori* people groups *(waka, iwi* and *hapu)* of the *Māori* people-environment relationship - termed the *'te ao Māori* epistemological stronghold' (or *'te ao Māori* stronghold') - that hold an adaptive strength born from *Māori* epistemological orientations to *Māori* creation coming with *Māori* migration*,* as exemplified in the above diverse/multi-reflexivity case example passage numbered 16 *(Waitahanui* key informant, 2003).

Such innate adaptability is differentiated in *Māori* reflexive strategies of late-modernity between the *waka* and *iwi Māori* people groups of wider *Māori* society (as articulated by reference to the term 'collective diversity'/CD) to the *hapu Māori* people group of a particular *Māori* societal sector (as articulated by reference to the term 'specific diversity'/SD). Therefore, I propose that the *te ao Māori* epistemological stronghold transcends both these socio-culturally linked affiliations of the *Māori* people-environment relationship, as diagrammatically portrayed in *Figure 7.1*.
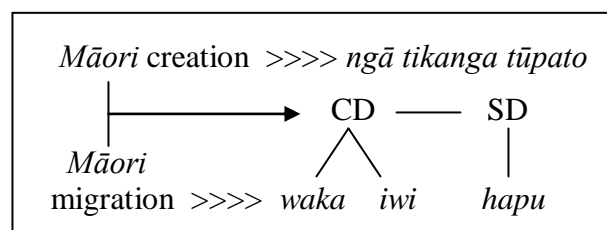
Figure 7.1 Schema of the *te ao Māori* epistemological stronghold and *Māori* reflexivity

Hitherto, I locate *Māori* reflexivity cross-tribally at both the collective and specific diversity levels of the *Māori* epistemological stronghold that transcends *Māori* adaptive strategies of socio-cultural consolidation in the *Māori* people-environment relationship of late-modernity. In this section, I focus more particularly at the specific diversity level although the transcending reflexivity of collective diversity is covered in the more general terms of cross-tribal adaptation to change. Drawing from the micro documented, oral and observable data of the *Māori* river community case study empirical research, my selected cross-tribal attributes of collective and specific diversity are identified in *Table 7.8*. However, I note here that it was beyond the scope of the study to go into the intracacies of these particulars cross-tribally.

**Table 7.8   Selected cross-tribal attributes of collective and specific
diversity in this study - conceptual framework**

Waitahanui MCS	*Oparau* MCS	*Harataunga* MCS
traditional governance structure		
- tribal authority: *Ngāti Tuwharetoa* - *hapu* authority: *Ngāti Tutemohuta*	- *waka* authority: *Tainui* - *hapu* authority: *Ngāti Hikairo*	- tribal authority: *Ngāti Porou* - *hapu* authority: *Ngāti Porou ki Harataunga*
traditional significance and meanings of river		
- name of river is traditionally prestigious - traditional place of subsistence living	- ancestral settlement area of *Ngāti Hikairo* - traditional place of ritual and subsistence living	- traditional boundary marker - traditional place of subsistence living
traditional authority position		
- *Māori* land tenure: approximately 90% - group-based authority structure - prominent, long-standing land, lake and river bed *kaitiaki* (*iwi* and *hapu* levels)	- *Māori* land tenure: approximately 5% - group-based authority structure - prominent long-standing land and river bed *kaitiaki* (*waka* level)	- *Māori* land tenure: approximately 90% - individual-based authority structure - prominent long-standing land and coastal foreshore *kaitiaki (hapu* level)
traditional river use practices		
- *whānau*-oriented river use: trout fishing, food gathering, swimming and river walk practices	- *wairua*-oriented river use: spiritual ritual practices	- *kaitiaki* river use: local subsistence agricultural and aqua-cultural farming practice

    *7.3.5   Local vertical governance and the relations of production -
    Waitahanui related kaitiakitanga, Oparau semi and unrelated
    kaitiakitanga and Harataunga related kaitiakitanga*

17. Waitahanui related kaitiakitanga
. . . *Tuwharetoa Māori Trust Board* . . . they are the managers of
the *Waitahanui* river bed on behalf of the owners . . . you know
. . . a lot of the people groan about them at home . . . *Waitahanui*
. . . the issue is a communication problem . . . they don't know
what's happening . . . no dialogue . . . it's like a closed shop . . .

no-one knows . . . they are management . . . they're the leaders . . . but I only hear from them when the voting forms come out every three years . . . nothing after that . . . nothing else . . . I do think it would be good if someone from the Board every now and then would come down and say hey this is the deed we have . . . we are working under this and any developments were still subject to the *RMA 1991* . . . but we never see them . . . *(Waitahanui* river community case study research participant oral data, 2003/key informant 3).

18. Oparau related, semi and un-related kaitiakitanga
. . . farming . . . main activity here . . . six families all together . . . only other ventures are the shop and the mail run . . . individual farms . . . but some of them are quite big as they have built their land holdings . . . one family here has three sons on different farms . . . yes . . . they are all owned by European . . . yes . . . I've seen the change of land ownership over the years . . . I have never heard of there being any problems, it was straight economics land for farming . . . for development . . . if a *Māori* family wanted to sell their land in *Oparau* . . . they did it freely . . . no problems as far as I know . . . *(Oparau Pākehā* river community case study research participant oral data, 2003/key informant 11).

19. Harataunga related kaitiakitanga
. . . only some of the *Māori* families here do the agricultural . . . aquacultural farming . . . all into the mighty dollar . . . ruling ones . . . ***** he owns most of the land here . . . runs the big mussel farms . . . multi-millionaire . . . ***** he lives right next door . . . even richer . . . on the business round table . . . he owns that island over there . . . another big developer . . . his brother owns a lot of land just over there . . . a farmer . . . **** they own the *paua* farm just over there and their relatives do the water bottling company as you come into Kennedy Bay . . . another family with a lot of land . . . ****he's new here . . . a *Māori* too. . . building a motel complex on the beach front . . . causing a lot of problems here . . . to the ruling families . . . *(Harataunga Pākehā* river community case study research participant oral data, 2003/key informant 11).

However, cross-tribal vertical governance of the local relations of production dominates transitory processes of late-modern synergy in *Aotearoa* local social explosiveness of hazard, as illustrated in the above diverse/multi-reflexivity case example passages numbered 17 - 19.

In *Waitahanaui* related *kaitiakitanga,* local vertical governance is structured into *Aotearoa* local social explosiveness of hazard at the collective diversity

level of *Waitahanui* local river *kaitiakitanga.* For example, local vertical single voice representation is built in through the *Pākehā* operating structure of the *Tuwharetoa Māori* Trust Board[148] (that is, the high level river *kaitiaki* of the *Waitahanui* River)*,* which was formed under hard and soft Westminster-Keynesian law, policy and practice *(Appendix 7.1).*

By contrast, in *Oparau* related, semi-related and un-related *kaitiakitanga,* local vertical governance is structured into *Aotearoa* social explosiveness of hazard at the specific diversity level of *Oparau* local river *kaitiakitanga.* For example, local vertical tree top soverign authority is built in through dominant *Pākehā* residency and land ownerhip and (that being, the key players of *Oparau* agricultural farming river use), which was also formed under Westminster-Keynesian law, policy and practice.

Lastly, in *Harataunga* related *kaitiakitanga,* local vertical governance is structured into *Aotearoa* social explosiveness of hazard at the specific diversity level of *Harataunga* local river *kaitiakitanga.* For example, local vertical tree top sovereign authority is additionally built in through minority (dominant) *Māori* residency and land ownerhip (that being, the key players of *Harataunga* agricultural and aquacultural farming river use), which was additionally formed under Westminster-Keynesian law, policy and practice.

Taken together, I argue that growth over conservation pervades the transition from the relations of production to the relations of definition at the cross-tribal vertical and/also multiple governance levels of *Waitahanui, Oparau* and *Harataunga* local river *kaitiakitanga.*

> ### 7.3.6   *Aotearoa local relations of definition and multiple official and non-official discourse distinction - the whānau, wairua and kaitiaki characteristic values of specific diversity*
>
>> *20. Waitahanui* river community case study and the *whānau* value -
>> . . . yes our family means every thing to us . . . and the close ties with each other in the community . . . we help each other . . . *ae . . . whanāungātanga . . .* all working

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[148] For further details see www.*tuwharetoa*.co.nz.

together . . . just in the *whānau* . . . trout . . . the fishing . .
. that's how it happens here . . . all shared out . . . what
ever is caught . . . drop one off to Nanny . . . another to
Koro . . . all given to the *whānau* . . . *(Waitahanui* river
community case study research participant oral data,
2003/key informant 7).

21. Oparau community case study and the *wairua* value -
. . . it means so much to share the river knowledge of our
people with you my dear . . . the river was the centre of
our lives . . . meant everything to us . . . was where our
people lived . . . right along the river . . . you know . . . in
the old *ponga* huts . . . we drank from it . . . we blessed
our babies . . . every time we had *karakia* we went down
to the river . . . morning and night . . . to bless everything,
give thanks . . . it all happened at the river . . . *(Oparau*
river community case study research participant oral data,
2003/key informant 1).

22. Harataunga river community case study and the
kaitiaki value -
. . . we are the majority land owners here . . . the ruling
kaitiaki . . . we take care of the place . . . not ruin it for
future generations . . . that's our job . . . for when the
visitors come . . . look after everyone . . . *te ahi ka* . . .
(Harataunga river community case study research
participant oral data, 2003/key informant 4).

At the cross-cultural multiple official and non-official discourse distinction
level of *Aotearoa* local relations of definition, I argue that specific diversity
could be distinuguished by the *Māori* river users reflexive reconstruction of
characteristic values; that being,

- the *whānau* chararcteristic value of *Waitahanui* local river
  kaitiakitanga, as depicted in the above diverse/multi-reflexivity case
  example statement numbered 20;
- the *wairua* characteristic value of *Oparau* local river *kaitiakitanga,* as
  depicted in the above diverse/multi-reflexivity case example statement
  numbered 21; and
- the *kaitiaki* chararcteristic value of *Harataunga* local river
  kaitiakitanga, as depicted in the above diverse/multi-reflexivity case
  example statement numbered 22.

In my comparative analysis, the *Māori* river user's reflexive practice of local river *kaitiakitanga* is articulated by reference to the *Māori* identity struggle underpinned by the contesting values of conversation - referring to *ngā tikanga tūpato,* and growth - referring to vertical epistemology.

My depiction of the reflexive reconstruction of *Māori* identity in the *Māori* river users' (MRU) reflexive practice of local river *kaitiakitanga* is schematically outlined in *Figure 7.2*.

MRU >>> local river *kaitiakitanga*

ngā tikanga >>> stronghold
tūpato

detraditionalisation

REA *vertical epistemology*
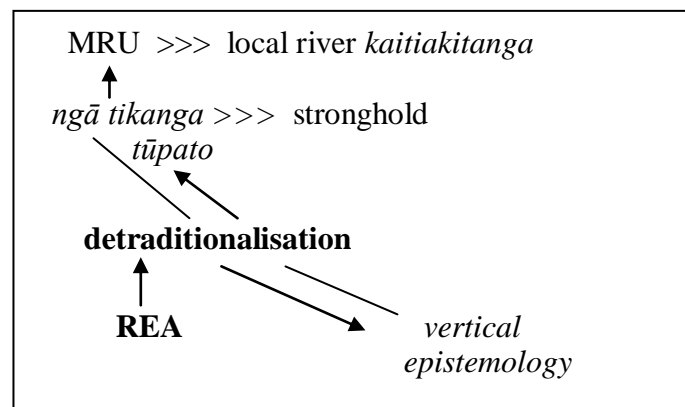
**Figure 7.2   Schema of *Māori* identity and
local river *kaitiakitanga***

As illustrated in the above schema of *Māori* identity and local river *kaitiakitanga* living *(Figure 7.2),* the inter-play between *te ao Māori* and vertical epistemology is at the heart of the detraditionalisation of *ngā tikanga tūpato* in *Māori* reflexivity. Comparatively speaking, the epistemological power and authority of the *te ao Māori* stronghold is reversed with the penetration of vertical epistemology, as articulated by reference to the term 'reversed epistemological association' (REA, *Figure 7.2).* My primary concern being the detraditionalisation of *ngā tikanga tūpato* in the reversed epistemological association at the collective representative level (referring to collective cross-tribal reflexivity) and at the specific representative level (referring to diverse/multi-reflexivity), whereby there is both the use and non-use of *tikanga* and western science. In my articulation of the governing, sub-governing and characteristic values of *ngā tikanga tūpato,* I postulate the epistemological order by which western science is incorporated in the reflexive

reconstruction of socio-cultural consolidation by the *Māori* river user reflexive self. My summary chart is provided in *Table 7.9.*

Table 7.9   Epistemological order of *ngā tikanga tūpato* and western science in cross-tribal local river *kaitiakitanga* - conceptual framework

Main value types of *ngā tikanga tūpato* and western science		
governing values		
wairua	*whakapapa*	*whānau*
empiricism	biological determinism	economic determinism
sub-governing values		
kaitiaki	*mauri*	*aroha*
manaaki	*kotahitanga*	*wāhi tapu*
anthropocentrism	individualism	
mechanism	dualism	reductionism
characteristic values		
Waitahanui MCS	*Oparau* MCS	*Harataunga* MCS
whānau	*wairua*	*kaitiaki*

7.3.7   Local vertical official and non-official discourse distinction and the relations of production

23. Waitahanui related kaitiakitanga - official discourse
. . . After 25 years, John has his own *Waitahanui* pool . . . The *Waitahanui* Fishing Club named a pool after guide John Johnson it was the consummation of a relationship that began 25 years ago when an English immigrant found his spot on the banks of a river he now calls his home . . . At 76, he's arguably the oldest fishing guide in New Zealand . . . This is his river, a rugged beautiful place that draws fisherman from around the world . . . Generally the people who get pools named after them have done something for the environment. It's a bit of an honour . . . He got to choose the pool that would carry his name . . . *(Waitahanui* related *kaitiakitanga* official discourse, *Appendix 7.2bii).*

24. Waitahanui related kaitiakitanga - non-official discourse

 . . . Consult us over pool names, *kaumatua* demands . . . *Waitahanui kaumatua* John *Hoani* Wall has had enough. He's fed up with people ignoring the long-established link *Ngāti Tutemohuta* has with the *Waitahanui* River . . . Earlier this month the *Taupo* Times reported that the *Waitahanui* Angling Improvement Society had named a pool after one of its members . . . Mr Wall is upset the society did not consult with *Ngāti Tutemohuta* before naming the pool . . . The *Tuwharetoa Māori* Trust Board holds the titles to the river on behalf of the *hapu.* People must not claim the *mana* of *Ngāti Tutemohuta.* He feels a knighthood would be a more appropriate way of recognising the

work of Mr Johnson. I know Johnnie on speaking terms . . . I'm not making a personal attack on him, it's just that nobody has the right to name a pool without approval from the tribe. We own the bed of the river. Mr Wall says many of the pools along the *Waitahanui* River already have names. They are simply ignored. People come along and put their own names on the pools. All these pools already have names. People forget that and name parts of the river without recognition from the sub-tribe. Theres no such thing as Murrays Mistake. What the hell was Murrays Mistake? There is also the Groin. That part of the river is actually called *Ngaurupa* Northcroft. And Gordon Williams Pool - it's not called that at all. It's actually called *Hurae's* pool, named after a *kaumatua* who lived on the river bank in that area for years . . . Mr Wall says people have no right to claim the heritage of the river. We will be consulting with the people about access to the river. The land belongs to *Māori.* It could be possible that the *hapu* will close access to the river. We want to remind people that New Zealand is to be shared. No one has the right to tramp on the *mana* of the *hapu.* It is the river they swim, the river they drink, the river they swim in. It is their heritage . . . *(Waitahanui* related *kaitiakitanga* non-official discourse, *Appendix 7.2biii*).

*25. Oparau related, semi and un-related kaitiakitanga -
non-official discourse*
. . . There is a sad lack of information about the *Māori* history of the district, but a few facts have been found. The early *Māori* settlers gave names to many places, streams and landmarks in the area. It is very interesting to see an old map of 1854, a part which is shown here, that *Oparau* was only the name of the river - the name of the settlement was *Opae*. The meaning of some of the place names can be found in A.A. Reeds Dictionary of *Māori* Place Names. . . . *Oparau:* the generally accepted meaning is 'The place of many *pas'* . . . *(Appendix 7.3bi,ii).*

*26. Oparau related, semi and un-related kaitiakitanga -
 non-official discourse*
. . . the history of the river before Europeans came into the area . . . and the name change . . . we lived in the area from generations to generations . . . I was born and grew up there as well in 1938 . . . the name of the river which flows from *Pirongia* mountain pass *Okupata* Road to the sea of *Kāwhia* . . . its original names *Pekenikau* the river on the west side is *Kaiauwe* . . . the name change came when Europeans came into the area . . . they changed it . . . the name *Operua* . . . *'ope'* means multitude of people who lived along the river banks of *Oparau* in their *punga* houses and *'rua'* means the two rivers where they meet from the *Pirongia* mountain from the west side as well as the north side . . . met at *Oparau* and then flowed out to the sea of *Kāwhia* . . . that still goes on today . . . the name of the river, where your brother lives on *Okupata* Road is

Pekenekau . . . but when Europeans came into the area . . . the change of *Operua* . . . they changed it to *Oparau* . . .*(Oparau* river community case study research participant oral data, 2003/key informant 5).

27. Harataunga related kaitiakitanga - official discourse
 . . . Kennedy Bay *(Harataunga):* On your descent you will see Kennedy Bay sprawling out in front of you. There is a pretty stream when you come onto the flats, which is also meandering its way down to Kennedy Bay . . . There is not much to see here apart from the beach which is not easy to find. Continue along the main road and just before the bridge are a couple of lanes to the right. Either of these narrow one-lane tracks will get you to the beach . . . *(Appendix 7.4bi).*

28. Harataunga related kaitiakitanga - official discourse
 . . . Submission on application 103484 . . . Dear Madam/Mr . . . I have been asked by Environment *Waikato* to endeavour to mitigate any submissions of an adverse nature that may decide whether or not a public hearing in the above application is warranted or necessary . . . The scientific concerns of your submission I will leave to the experts. However, I can comment on some of the other issues. Our barges navigate the estuary 4 hours either side of high tide . . . It is seldom that one of our barges are unloaded on Kennedy Bay Beach. We do not buy into your statement that there is a PUBLIC ROAD to the beach. In fact we will be revisiting the *Māori* land court shortly to prove once and for all that the Right of Way I gave/created in 1989 was for IWI. There was as you say plenty of cockle and *pipi* in 1972. WE say that you people along with the general public at large have eaten them all. The *whānau* will be applying to MAF after this holiday season under Section 186A to have all Kennedy Bay beds closed for two years . . . the time has come again for the 3 *hapu* . . . to stand up and repulse the invaders . . . *(Harataunga* river community case study research participant data file, 2003: 79 - 80/key informant 4).

29. Harataunga related kaitiakitanga - non-official discourse
. . . 8 April 1999 . . . Your honour my name is **** We thank you for this opportunity to be heard in respect of our objection of new trustees to the right of way over 2B2. We have owned our property at Kennedy Bay since 1987 and have lived there permanently since March, 1988. When we bought our property we were given to understand that there was and always had been public access to the Kennedy Bay Beach. We would not have bought our property if we hadn't believed this to be true. At that time, access to the beach over 2B2 was by way of an unformed roadway . . . Later in 1973 we were devastated to find that the way to the beach had been blocked by a locked gate and that No Trespass signs had been erected. For the next 6 years the only

way to get to or from the beach was by crossing the estuary on foot . . . To our relief, the current right-of-way was granted by the *Māori* Land Court in 1980 . . .Over the years since then the current trustees have managed to sort out any problems pertaining to the right of way, while enabling local people and visitors to enjoy the many values of the Kennedy Bay Beach and the sea . . . We believe that the right of way over 2B2 should not be jeopardised by allowing jurisdiction over it placed in the hands of people who have so often expressed a desire to curtail current usage . . . We strongly object to any appointment of new trustees . . . *(Harataunga* river community case study research participant data file, 2003: 90 - 92/key informant 9).

However, in addition, the cross-tribal local vertical official and non-official discourse distinction of the local relations of production dominates transitory processes of late-modern synergy in *Aotearoa* local social explosiveness of hazard, as illustrated in the above diverse/multi-reflexivity case example passages numbered 23 - 29.

Cross-tribally, Westminster-Keynesian law, policy and practice is also structured into *Aotearoa* social explosiveness of hazard at an official capacity, that is,

- through the *Waitahanui* and *Oparau* local vertical pre-modern assumptions viewpoint; thus deeming the *Waitahanui* and *Oparau* local multiple socio-cultural and biological diversity viewpoint non-official, as demonstrated in the above diverse/multi-reflexivity case example passages numbered 23 - 26; and

- through the *Harataunga* vertical commodified intellectual property viewpoint; thus deeming the *Harataunga* local multiple instrinsic value viewpoint non-official, as demonstrated in the above diverse/multi-reflexivity case example passages numbered 27 - 29.

Overall, I also argue that growth over conservation pervades the transition from the relations of production to the relations of definition at the vertical and/also multiple official and non-official discourse distinction levels of cross-tribal local river *kaitiakitanga*.

7.3.8 Aotearoa local relations of definition and multiple informational reflexivity - the detraditionalisation of cohesion and dysfunction

30.

> . . . I believe we need to work together . . . because now we've got these problems in *Kāwhia* that people are saying they own these areas, these are our boundaries . . . who are other people to talk about this? Certain area which are the boundaries of other *hapu.* But really the *mauri* of the area belongs to the *Ngāti Hikairo* people, the whole of *Kāwhia.* The way I see the *Resource Management Act* is to bring in all the *hapu* together around the harbour and to work together. If you know your boundaries and then appoint a delegate to handle their boundaries but you need to work together. But I think that *Ngāti Hikairo* has put in place . . . you know with your brother . . . * and * , . . and various others around the harbour all part of that committee for resource management, working as a team . . . dealing with councils. But, the most important thing is to compromise what's good for him and what's good for us - on equal terms. And that's how I work . . . scientific knowledge, scientists . . . we need that . . . I think it's a good thing . . . you know . . . we can't go back to the old world back to *taha Māori, tikanga*, the spiritual dimension . . . but we have to look at it too . . . the generations change . . . the years change . . . were in the age of the micro-chip now . . . we need to put scientists in there . . . you know . . . like the *taiapuhe* . . . a place where they have boundaried off where commercial fisherman can't fish . . . but before they got there, scientists found out what was the cause for the loss of the fish there . . . also from the scientists we got information about the cause of pollution in chemicals and the farms . . . but how can we avoid that . . . they need those chemicals on their farms . . . a very tricky problem that one . . . but a lot of chemicals going way back were wasted . . . wasn't used for the purpose they were given for . . . I know that a lot of those chemicals were buried . . . a big hole was dug . . . eventually that would seep into the rivers and back into the sea . . . and that was a lot of the reason why our seafood is gone . . . we've found that out now through scientists . . . I totally agree that we need scientists in there to help like this . . . *(Oparau* river community case study research participant oral data, 2003/key informant 6).

31.

> . . . The Kennedy Bay Mussel Company (New Zealand) Limited is at a crossroads in regard to development. The Directors would like to expand in all directions . . .

> Therefore our immediate focus is to realise some of the aquacultural assets into joint venture. Background: 1995 - Doctor Simon Hooker, Marine Scientist worked with Kennedy Bay *iwi* . . . 1999 - *Te Ohu Kai Moana* invested $1,000,000 on condition that *Konaki* aquaculture Research Limited run a *Māori* company comprising: *Waipareira* Trust 20%, *Waipaua* Aqua Farms 40% and Kennedy Bay Mussell Company 40% . . . A firm proportion of *Māoridom* are aware of what is happening in Kennedy Bay - offers of investment in Kennedy Bay Rock Lobster are being mooted (GOLD RUSH!). We all know the *mana* associated with lobster that appears regularly on an *iwi, hapu, whānau* or an individuals table . . . *(Harataunga* river community case study research participant data file, 2003: 100 - 101/key informant 9).

At the cross-tribal multiple informational reflexivity level of *Aotearoa* local relations of definition, I argue that cohesion (referring to the pros of both the use and non-use of *tikanga* and western science) and dysfunction (referring to the cons of both the use and non-use of *tikanga* and western science) are reflexively engaged in the reversed epistemological association of the detraditionalisation of *ngā tikanga tūpato* in cross-tribal local river *kaitiakitanga.*

On the pro side, one sees the potential collaboration between knowledge/value systems (as illustrated in the above diverse/multi-reflexivity case example numbered 30), whereby the search for value balance in the value equation of growth and conservation leans toward conservation versus growth and conservation over growth as a proactive means to enhancing sustainability.

On the con side, one sees the potential collaboration between knowledge/value systems (as illustrated in the above diverse/multi-reflexivity case example numbered 31), whereby the search for value balance in the value equation of growth and conservation leans toward growth versus conservation and growth over conservation as a proactive means to enhancing materialist growth.

7.3.9 Cross-tribal indicators of river well-being/ill health - the cultural survival/loss value continuum of ngā tikanga tūpato

32.

. . . *tikanga* and the environment . . . always comes back to the spiritual side . . . the old saying is that the dead . . . when you bury a person the spirit has gone but its body eventually turns back to water . . . if you leave a piece of meat on a plate and let it decay . . . eventually it will go back to water . . . and a lot of those *urupa* along there . . . the spiritual . . . eventually that water will meet and connect into our rivers flow to the sea and then on to *rerenga wairua* . . . that's the only way they are going to get there if you really look at it . . . which is common sense . . . that's why the river is so important to *Māori* because everyone has a mountain . . . tribes talk about their mountain then they talk about their river . . . because the river is the connection of the spiritual where everybody meets . . . you know there are always connections . . . other little creeks . . . other little water flow ways that meet into one . . . then it all flows out to sea . . . like you take the *Waikato* river . . . how many rivers that connects into the *Waikato* river . . . you've got the *Rotorua* . . . the *Waipa* . . . and various others . . . now the spiritual essence is that they all meet eventually . . . then everything runs out to sea . . . then in *Māori* terms . . . where did we come from? . . . our voyage was from *Hawaiki* to here . . . so how every *iwi* throughout the country they eventually meet through the spiritual then when you look at it dear . . . when you bury the dead . . . eventually its body will end up into water which flows underground which is called *oranga hura* that's the old *Māori* word for it or *waiehu* . . .(*Oparau* river community case study research participant oral data, 2003/key informant 6).

33.

. . . I went to a meeting at the school and I was one of two white faces . . . about the river . . . the mentality of the locals! . . . never seen anything like it in my life! . . . I'm talking about wow. . . it blew me away . . . I was absolutely furious . . . didn't make any sense to me . . . the Department of Conservation wanted to fix the river reserve area and help the trees that are on there the *kowahi's* they are all dying . . . mature trees . . . and they wanted to set it up as a reserve to restore it . . . so the plan was to put in a pathway . . . eroded by the water . . . and restore it . . . replant the native trees . . . make it pretty again . . . well the comments were terrible . . . absolutely horrible! . . . if anyone could speak that is! . . . I got abused because I had a white face . . . they ripped up all

the maps and everything . . . DOC didn't get a chance to speak . . . not to say a thing . . . no. . . not a **** thing . . . they wouldn't listen . . . ***** got up and as far as he was concerned he didn't care whether it was smothered in blackberries or not. . . a real ******* . . . now that's not looking after and caring for the land . . . totally un-believeable . . . meant to be *kaitiaki* . . . they tried to get the local community along for goodness sake . . . to participate . . . there were only two white faces there . . . I thought it was going to get out of control . . . I mean these people were really rough . . . it was bad . . . it was really horrible . . . everytime DOC went to say something . . . they would say 'get off our f***** land' . . . it made me furious that they wouldn't even listen . . . all they wanted to do was to put native trees in . . . unbelievable . . . I just couldn't believe it . . . they don't care about the environment at all . . . not at all! . . . all they care about is ownership *(Waitahanui* river community case study *Pākehā* research participant oral data, 2003/key informant 26).

My central concern in the reflexive reconstruction of cohesion and dysfunction by the *Māori* river user reflexive self, is the extent at which the detraditionalisation of *ngā tikanga tūpato* is aligned and connected to the *te ao Māori* stronghold.

On one side, alignment to the *te ao Māori* stronghold indicates cultural survival (as illustrated in the above diverse/multi-reflexivity case example statement numbered 32). In my comparative analysis, this refers to the cross-tribal indicators of river well-being. On the other side, non-connection to the *te ao Māori* stronghold shows cultural loss (as illustrated in the above diverse/multi-reflexivity case example statement numbered 33). In my comparative analysis, this refers to the cross-tribal indicators of river ill-health.

My comparative analytical framework of such reflexivity is termed the 'cultural survival/loss value spectrum of *ngā tikanga tūpato'.* A schematic portrayal and conceptual framework is provided in *Figure 7.3,* and *Table 7.10.*
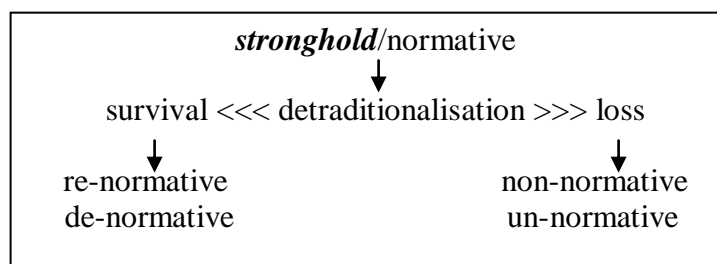
**Figure 7.3   Schema of the cultural survival/
loss value spectrum of *ngā tikanga tūpato***

**Table 7.10   Cultural survival/loss value spectrum of *ngā tikanga tūpato* -
conceptual framework**

Main value quadrants - key characteristics	
Attribute	*Meaning*
normative *ngā tikanga tūpato*	epistemological 'home-base' of the *te ao Māori* stronghold
cultural survival end of value spectrum	
re-normative *ngā tikanga tūpato*	strong alignment and connection to the *te ao Māori* stronghold
de-normative *ngā tikanga tūpato*	decreasing alignment and connection
cultural loss end of value spectrum	
non-normative *ngā tikanga tūpato*	very little alignment and connection
un-normative *ngā tikanga tūpato*	no alignment or connection

As illustrated in the above articulation of the detraditionalisation of *ngā tikanga
tūpato,* the extent of cultural survival or loss *(Figure 7.3)* is ascertained by the
degree of alignment and connection to the *te ao Māori* stronghold *(Table 7.10).*

7.3.10   *Aotearoa local relations of production and local vertical
informational reflexivity*

34.
. . . Vehicle barriers to be put up along the track . . . The
Department of Conservation is putting vehicle barriers
along the track linking the ends of *Hurae, Peehi Manini,*
Mill and Blake roads at *Waitahanui.* The track gives
motorists access to car parks near the river and its foot
bridges, but it passes through a reserve managed by the
department and two sections of private land. People will

still be able to walk through the reserve and along the river . . . *(Waitahanui* river community case study research participant data file, 2003: 103 - 101/key informant 9).

35.

 . . . yes we employed *Māori* when we first bought the farm and my father did and his father . . . you know they helped a lot to set up the farms around here for *Pākehā* . . . no need to have them now though . . . no more involvement with local *Māori* . . . oh of course we allow them to cross our lands to visit their burial sites . . . that's okay with us . . . the least we can do . . . *(Oparau* river community case study *Pākehā* research participant oral data, 2003/key informant 5).

36.

. . . they're pretty stuck up and high and mighty . . . think their better than us commoner *Māori* because they have all the land . . . money . . . no they don't mix or give back to the rest of the community . . . the one that's on the Business Round Table . . . is really rude . . . apparently he speaks quite negatively about the *whānau* here . . . no we're not involved in their money making ventures . . . probably not good enough to be hired by them . . . *(Harataunga* river community case study research participant oral data, 2003/key informant 6).

Finally, however, cross-tribal local vertical informational reflexivity of the relations of production dominates transitory processes of late-modern synergy in *Aotearoa* local social explosiveness of hazard, as illustrated in the above diverse/multi-reflexivity case example passages numbered 34 - 36.

Cross-tribally, Westminster-Keynesian law, policy and practice is additionally structured into *Aotearoa* local social explosiveness of hazard at an official capacity, that is,

- through the *Waitahanui* local vertical shallow, short termed and output focused approach; thus deeming the multiple deep, long termed and authentic assessments as outcomes approach non-official, as demonstrated in the above diverse/multi-reflexivity case example passages numbered 34;

- through the *Oparau* vertical non-incorporation and non-participation approach; thus deeming the multiple traditional ecological   and adaptive knowledge approach non-official, as demonstrated in the

- above diverse/multi-reflexivity case example passage numbered 35; and

- through the *Harataunga* vertical exploitative legacies approach; thus deeming the multiple reciprocal and benefit sharing approach non-official, as demonstrated in the above diverse/multi-reflexivity case example passage numbered 36.

Altogether, I additionally argue that growth over conservation pervades the transition from the relations of production to the relations of definition at the vertical and/also multiple informational reflexivity levels of cross-tribal local river *kaitiakitanga*.

Having introduced the conceptual basis of my articulation of the mismatched display of socio-cultural nuanced reality and *Māori* reflexivity locally, the rest of the section presents the remainder of my comparison of the correlation of reflexive theory and reflexive practice socio-culturally.

7.3.11   Periodic stage of local applications of late-modern synergy 1

Prior to the Treaty of *Waitangi* - in the 950-1840 Westminster-Keynesian stage of the stronghold of *te ao Māori* in *Aotearoa* local reflexive modernisation*,* I propose that socio-cultural affiliated links of the *Māori* people-environment relationship were innately transferred in the pre-migration (before 950), migration and initial settlement (950-1300), established settlement (1300 - 1700) and contact (1700-1840) periods of the three *Māori* river community case studies, bringing a cross-tribal *te ao Māori* stronghold steeped in the synergistic and adaptive capacity of *Māori* reflexivity (Asher et al., 1987; Ballara, 1996; and Royal, 2000). At the collective diversity level, cross-cultural adaptation evolved in the great adaptive feat of the ancestral *waka* migration (Asher et al., 1987; Ballara, 1996; Grace, 1959; Jones, et al., 1995; Kelly, 1949; and Phillips, 1989; 1995) from which my *tipuna* of the three rivers affilate. Of course, the all-encompassing expanse of such reflexivity was far beyond the scope of this study.

Rather, at the specific diversity level - in relation to the *Waitahanui* river[149] community case study, I argue that *whānau* adaptive strategies derive from the *Ngāti Tuwharetoa iwi* affiliated *te ao Māori* stronghold of collective diversity,[150] through the 14th century migration of the mighty *Te Arawa waka* by which the great founding ancestor of the *iwi, Tuwharetoa,* originated from the 16th century (Gartner, 1991; and Grace, 1959). Currently, of particular importance, is the tribe's high-level *kaitiaki* status[151] over much of the natural and physical resources in the *Taupō* region. Specifically, the *Waitahanui* river community case study represents one example of such retained tribal authority, as traditionally passed down to the local *hapu* authority of *Ngāti Tutemohuta.*

In relation to the *Oparau* community case study, I propose that *wairua* adaptive strategies derive from the *Tainui waka* affiliated *te ao Māori* stronghold of collective diversity (Bass, 1993; and Kelly, 1949), as transcended in reflexive change at the specific diversity level through ancient voyaging of *Kupe*[152] (Jones, 1995; Parsonson, 1973; Phillips, 1989; 1995; and Schnackenberg, 1926) and the *Tainui waka*[153] migration (Jones, 1993; Kelly, 1949; and Van Meijl, 1990) from which our founding 1600s ancestor, *Hikairo,* originates. The *Tainui waka* also holds a high-level *kaitiaki* status[154] in its inter-related

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[149] In the *Waitahanui* community case study narratives, I note here that the *Waitahanui* River flows through the traditional boundaries of other *Tuwharetoa hapu.* However, *Ngāti Tutemohuta* is the *hapu* affiliated authority of the *Waitahanui* River for this study, as drawn from the *Māori* researcher's kinship affiliated *whakapapa* of *Ngāti Tuwharetoa (Appendices 3.2ai,ii,iii,iv).*

[150] In the *Waitahanui* community case study, I argue that *kaitiakitanga* is epistemologically linked by customary authority, *rangatiratanga,* as transcended from collective diversity (for example, the customary title of the Lake *Taupō* bed) to specific diversity (for example, the customary title of the *Waitahanui* River bed).

[151] The *Tuwharetoa* tribe (membership of around 30,000) collectively own around 250,000 hectares with a capital asset base in excess of $800 million. In my viewpoint, the *Tuwharetoa* tribal governance system (headed by the *Tuwharetoa Māori* Trust Board/1926), are the 'high-level *kaitiaki'* of the tribe's ancestral lands and water. Their resource/management duties have included the land/resource titles of *Taupō* lake bed and *Tauhara* mountain. For further details see *Appendix 7.1* and www.*tuwharetoa*.co.nz.

[152] Drawing from the *Oparau* research interviews, it was in 950 that *Kupe* sailed to *Kawhia* in the *waka, Matahorua* (Cumins, 2004; and Jones, 1993; 1995).

[153] Drawing from the *Oparau* research interviews, the *Tainui waka* landed at *Kawhia* in 1350, as led by the *waka* commander, *Hoturoa* (Kelly, 1949).

[154] The *Waikato* tribe holds many traditional resource ownership rights, including the land/resource titles of the *Waikato* River, the University of *Waikato,* and Mount *Pirongi (Tainui* River Report, 2001). Thus, in my viewpoint, they are very important *kaitiaki,* stewards of the *Waikato* region. For further details see www.*tainui*.co.nz.

activities[155] of the *Waikato* region (Cumins, 2004; Ross, 1979; and Woolford, 1998). The *hapu* authority of the *Oparau* River, *Ngāti Hikairo,*[156] has a very special *kaitiaki*, spiritual role[157] in the *Kingitanga* and *Tainui waka.* Hence, the *Māori* river users of *Ngāti Hikairo* descent hold a spiritually significant role as local *kaitiaki.*[158]

In relation to the *Harataunga* community case study, I argue that *kaitiaki* adaptive strategies derive from the *Ngāti Porou iwi* affiliated *te ao Māori* stronghold of collective diversity *(Mahuika,* 1973; Royal, 2000; and Soutar, 2000), as transcended in reflexive change at specific diversity through the 950 creation stories of *Maui* and *Paikea,* from which *Porourangi* - our founding ancestor, affiliates[159] (Royal, 2000). As one of the largest tribes of *Aotearoa,*[160] it is culturally renowned for its legendary association to great *Māori* leaders such as *Apirana Ngata (Ngata,* 1902; 1940). Many *Ngāti Porou* tribal members still reside in their East Coast tribal homelands of rural *kaitiaki* living (Hutton, 1995; and Royal, 2000) - the *Harataunga* community case study[161] being a prime case example of such prevailing rural *kaitiakitanga (Kingi,* 2001; Nicholls, 1958; and Williams et al., 1994).

Taken together, I postulate that vertical supremacy was kept at bay over this evolutionary time period in these three communities with a retained cultural affiliation to the *te ao Māori* stronghold. As verticality had not yet been co-opted by the *Māori* river user reflexive self in *Aotearoa* local social

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[155] The *Waikato* tribe is culturally renowned for its inter-related resource management/ governance activities as *kaitiaki,* such as the *Waikato Raupatu* claim, the *Waikato* River Claim and the Endowed College Initiative. For further details see: www.*tainui*.co.nz.

[156] In the *Oparau* community case study narratives, I noted that the *Oparau* River flows through the traditional boundaries of other *Tainui hapu.* However, *Ngāti Hikairo* is the *hapu* affiliated authority of the *Oparau* River in this study, as drawn from the *Māori* researcher's kinship affiliated *whakapapa* of *Tainui (Appendices 3.2bi,ii,iii,iv).*

[157] According to my *Ngāti Hikairo tipuna,* our *hapu* held a specialist caretaker role during the migration of the *Tainui waka,* and subsequently thereafter. This includes sacred, spiritual gifts of *kaitiakitanga,* stewardship passed from one generation to the other.

[158] For further details of my *Ngāti Hikairo hapu* affiliated spiritual viewpoint see *Chapter 3.*

[159] By contrast, I argue that the *Harataunga* community case study core stronghold derives from the creation myths, compared to the *waka* migration stories.

[160] The *Ngāti Porou iwi* is the second largest *Māori* tribal grouping of *Aotearoa,* consisting of around 60,000 tribal members. For further details see www.*ngatiporou*.co.nz.

[161] In the *Harataunga* community case study, various terms of reference are used for the *hapu* authority from which my *Harataunga whānau* affiliate. In this study, I use the term *'Ngāti Porou ki Harataunga'*; this being, the one that I have been brought up with. For further details see *Appendices 3.2ci,ii,iii.*

explosiveness of hazard, I propose that this epoch of *Aotearoa* local reflexive modernisation pertained to the pre-breakdown stage of the *Māori* people-environment relationship.

Next, *Māori* reflexivity is compared from the infiltrated advent of vertical epistemology with the coming of *Pākehā* colonisation.

7.3.12 Periodic stage of local applications of late-modern synergy 2

37. (re-stated Chapter 4)
Two centuries ago *Māori* were the undisputed managers and administrators of natural resources in *Aotearoa*. The framework that this management operated in was determined by *tikanga* evolved through linkages back to the creation of the very land itself. The negotiation and signing of the Treaty of *Waitangi* in 1840 was to end this indigenous monopoly of resource management forever. It has also led to major questions over the ownership of natural resources (Nuttall et al., 1995: 1).

38.
. . . the land was *Māori* owned . . . then when *Pākehā* came it was taken . . . you know the Public Works Act and all that . . . they took the land and cut the roads through . . . introduced trout . . . river changed forever . . . *(Waitahanui* river community case study research participant oral data, 2003/key informant 4).

39.
. . . now when Europeans came in with their laws and that . . . that's when things changed . . . because they used to get all of the timber from the bush . . . you know dynamite it . . . and we had the Clydesdale horses . . . we called them Draught horses and we had six of them running on that farm . . . and they used to pull all the timber from the bush . . . and then they'd put it through the saw mill . . . along the river . . . *your tipuna* . . . they weren't allowed to live along the river anymore when the Europeans came . . . you must remember in those days our people built their own houses out of *punga* and they had dirt floors . . . they made *whāriki*, mats from flax . . . you know they weaved . . . the flax was plentiful back then . . . and when the European came it was condemmed . . . *(Oparau* river community case study research participant oral data, 2003/key informant 4).

40.

> . . . 1900s developments . . . along the *Harataunga* river . . . goldminning . . . rubble dumped and eroded into the stream . . . Constant burning of the bush and scrub hills of the watershed causing damaging flash floods from rapid run off of rainfall. . . Logs sent down to the mill on the *Harataunga* estuary by tripping dams of timber construction . . . *Kauri* gum digging was another activity that disturbed the banks of the river . . . *(Harataunga* river community case study research participant oral data, 2003/key informant 9).

As relayed in the above diverse/multi-reflexivity case examples commentaries numbered 37 - 40 *(Waitahanui, Oparau* and *Harataunga* key informants, 2003), the 1800-1900 period of *Pākehā* colonisation in the three *Māori* river communities saw the take-over by European culture, western science and discourse. Economic development thrived in the growth driven industries of *Waitahanui* lake and river tourism[162] (Grace, 1959; Greenfield, 1996; and *Kahu,* 2003) *Oparau* sea[163] export trade[164] (Craig, 1978; Cumins, 2004; and Marr, 1996; 1999) and *Harataunga*[165] coastal export trade settlement and trade[166] *(Mahuika,* 1973; Royal, 2000; and Soutar, 2000).

In counter-response, *Māori* cross-tribal adaptation included -

- cross-tribal resistance, such as:
  - the 1860s warfare exploits of *Te Kooti* (Frame, 2002; Gartner, 1991; Grace, 1959; and *Kahu,* 2003) in relation to the *Waitahanui* river community case study;

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[162] By contrast, *Māori* adapted to the economic development enterprises of lake and river based tourism in the *Waitahanui* community case study. For further details see Grace (1959).

[163] In the *Oparau* community case study, goods and merchandise were ferried from *Kāwhia* seaport, across the *Oparau* River to *Pirongia;* this being, a primary transportation route of trade in the early 1800s *(Oparau* Centennial Reunion Committee, 1993; 2003).

[164] In the *Oparau* community case study, *Māori* reflexively engaged in the trade of wheat, flax/rope and food stuffs such as *kumura* and potatoes *(Oparau* Centennial Reunion Committee, 1993; 2003).

[165] In the *Harataunga* community case study, *Māori* reflexive strategies of trade are a prominent feature of the local *Māori* history (Hutton, 1995; Nicholls, 1958; and White, 2001).

[166] Also widely revered, is the historical trading point of the *Harataunga* community case study locale. For further details see White (2001).

- the 1790 battle of *Hingahaka*[167] (Jones, 1993; 1995) and 1870s King Country closure[168] (Craig, 1978; and Marr, 1996; 1999) in relation to the *Oparau* river community case study; and

- the originating *hapu's* (*Ngāti Huarere*) extermination by the 18th century musket rampages of *Ngā Puhi* (Inch, 2002; and Mayhead, 1994; 1995) in relation to the *Harataunga* river community case study.

- cross-tribal reconciliation, such as -

- the upholding of *Pākehā* law through the 1869 *(Waitahanui)*/ 1883 *(Oparau)*/ 1878 *(Harataunga)* Armed constabulary (Cooper, 1985; Gartner, 1991; and Greenfield, 1996).

- cross-tribal survival of the *te ao Māori* stronghold, such as -

- the 1850s *Tuwharetoa* chieftainship led by the paramount chief, *Tumu Te Heuheu*[169] (Cooper, 1989; Frame, 2002; Grace, 1959; Greenfield, 1996; and *Kahu,* 2003) in relation to the *Waitahanui* river community case study;

- the 1850s rise of the *Kingitanga* movement[170] (Parsonson, 1973; and Van Meijl, 1990) in relation to the *Oparau* river community case study; and

- the *tuku* land succession of *Paora te Putu* and *Te Raukauhurumai* from *Ngāti Porou* coastline migration to *Harataunga* (Hutton, 1995; Nicholls, 1958; and White, 2001) in relation to the *Harataunga* river community case study.

- cross-tribal economic development, such as -

- collaborative *Waitahanui* lake and river tourism (Grace, 1959; Greenfield, 1996; and *Kahu,* 2003);

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[167] Drawing from the *Oparau* research interviews, my *Ngāti Hikairo tipuna* played a significant role in the *Hingahaka* campaign; this being, a most revered battle of the *Waikato* land wars. For further details see Jones (1993).

[168] One of the great feats of the *Kingitanga*, was the internal control and power of traditional land boundaries, which were closed off to *Pākehā* between 1870 to 1880, termed the 'King Country'. For further details of this revolutionary time period see Craig (1978).

[169] The present day paramount chief of *Tuwharetoa (Tumu Te Heuheu)* descends from *Te Heuheu Herea,* the first of the *Heuheu Tukino* line of paramount chiefs founded in 1850 (Grace, 1959; and *Kahu,* 2003).

[170] My key readings of the *Kingitanga* movement include Ballara (1996), Jones (1993; 1995); and *Mahuta* (1992; 1995).

- collaborative *Oparau* sea export trade (Craig, 1978; Cumins, 2004; and Marr, 1996; 1999); and

- collaborative *Harataunga* coastal export trade settlement and trade (*Mahuika,* 1973; Royal, 2000; and Soutar, 2000).

Hereby, I postulate that vertical supremacy invaded these three *Māori* river communities with a consequential penetration of the *te ao Māori* stronghold and immediate breakdown of the *Māori* people-environment relationship. Ineffectively, I propose that this resulted in the cooptation of vertical epistemology; that being, at an initial take-up level of the reflexive reconstruction of socio-cultural consolidation by the *Māori* river user reflexive self.

Additionally, I argue that the vertical cooptation process accelerated cross-tribally through the colonising guises of missionaries,[171] land individualisation,[172] and native schools[173] from around the 1870s (that is, the 1870s Native Lands Act) onwards (Asher et al., 1987; Ballara, 1996; Hutton, 1995; and Royal, 2000).

Simultaneously, the co-optation of *Pākehā* science and technology (Fleming, 1959; Hintz, 1955; 1975; and Nicholls, 1958), and expanded growth of the *Waitahanui* trout fishing (Draper, 1969; Fletcher, 1980; Gibbs, 1996; 1999; and Hintz, 1955; 1975), *Oparau* agricultural farming *(Oparau* Centennial Reunion Committee, 1993; 2003) and *Harataunga* agricultural and aquacultural farming (Nolan, 1977; Schwimmer, 1956; and Sewell, 2000) industries took off.

Thus, cross-tribal local river *kaitiakitanga* was established (termed 'resettlement') through land individualisation (from 1870s onwards in the establishment of *te ahi ka)* under the 1870s onwards vertical ethic of growth and development. As this *hapu* level resettlement process was based on the

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[171] The missionaries arrived around the 1830s, and more specifically in 1834 (*Waitahanui* community case study), 1834 (*Oparau* community case study) and 1836 (*Harataunga* community case study).

[172] I argue that land individualisation was most fundamental to the penetration of vertical hegemony *(Chapters 4* and *5).*

[173] The native school system commenced around the 1890s, and more specifically in 1901 (*Waitahanui* community case study), 1902 *(Oparau* community case study) and 1894 *(Harataunga* community case study).

verticality concepts of individualisation and economic determinism and ineffectively, a reversal of epistemological power in the *te ao Māori* stronghold it is termed 'primary vertical individualistion' - referring to the primary evolutionary stage of *Māori* land alienation and subsequent cooptation of vertical epistemology.

7.3.13   Periodic stage of local applications of late-modern synergy 3

> *41.*
> . . . Who we are . . . we are involved in the following organisations in Kennedy Bay: Kennedy Bay Mussell Co (NZ) Limited . . . *Konaki* Aqua-culture Research Limited . . . *Ahu Ahu* Aquaculture Research Limited . . . What we do . . . Utilise 25 ha of sea water within Kennedy Bay (120 long lines) to farm and grow mussel seed for the mussel industry . . . Our Vision . . . Develop up to 600 ha marine farms . . . export 40,000 lobster per annum from our bay . . . erect luxury single storey motel . . . *(Harataunga* river community case study research participant data file, 2003: 9-10 /key informant 4).

> *42.*
> . . . the *Pākehā* owner operates the gates, paddocks . . . multiple-owned farms . . . all from his city-based computer system . . . it's a multi-million dollar operation I believe. . . *(Oparau* river community case study research participant oral data, 2003/key informant 9).

> *43.*
> . . . In late April a gate was erected across Blake Road at *Waitahanui* stopping access along the road . . . to the Limit Pool of the *Waitahanui* River. Although there is no longer vehicle access to the end of Blake Road, there is still legally-protected foot access for licenced anglers within 20 metres of both banks of the *Waitahanu*i River from its mouth to its source, regardless of land ownership. This is part of an agreement between the Crown and *Ngāti Tuwharetoa* ratified in the 1926 *Māori* Land\Amendment and *Māori* Land Claims Adjustment Act which provides for general public acess to and use of Lake *Taupo,* and for foot access for anglers to specified sections of the tributary rivers . . . (Gibbs, 2001: 9).

As portrayed in the above diverse/multi-reflexivity case example commentaries numbered 41 - 43 *(Oparau* and *Harataunga* key informants, 2003; and Gibbs, 2001: 3), the 2000 onwards period of European dominance in *Aotearoa* local reflexive modernisation relates to hyper-capitalist growth and development, as

seen in the three *Māori* river communities with regard to bio-technological aquacultural and agricultural farming[174] (Cooper, 1989; Mayhead, 1994; 1995; and *Oparau* Centennial Reunion Committee, 1993; 2003), hyper-capitalist tourism[175] (Greenfield, 1996; Hintz, 1955; 1975; Inch, 2002; *Oparau* Centennial Reunion Committee, 1993; 2003; and Pacific Asia Travel Association, 1991) forestry[176] (Gabites et al., 1984; Gartner, 1991; Woolford, 1998; and Schnackenberg, 1926) hyper-capitalist agriculture and overseas trade[177] (Cumins, 2004; Gabites et al., 1984; and *Kahu,* 2003),

Also relevant, is the vertical governance-oriented *Aotearoa* indigenous claims process which transcends this evolutionary time period, as distinguished from the 1970s (*Waitangi* Tribunal Act) onwards. Indeed, various *hapu* and tribal level claims[178] were under progress at the periodic time point of the 2003 empirical fieldwork research. Thereby, cross-tribal local river *kaitiakitanga* was re-established (termed 'desettlement') through land individualisation (from 1870s onwards in the establishment of *te ahi ka)* under the 1870s onwards vertical ethic of growth and development. As this *hapu* level desettlement process was additionally based on the verticality concepts of individualisation and economic determinism and ineffectively, a reverberated reversal of epistemological power in the *te ao Māori* stronghold it is termed 'reversed vertical individualistion' - referring to the secondary evolutionary stage of *Māori* land alienation and subsequent cooptation of vertical epistemology.

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[174] The agricultural industry is another important growth initiative, with particular regard to kiwifruit farming.

[175] Tourism has been an important growth industry in all of the *Māori* community case studies, as they are located in very close proximity to the prime tourist destinations of *Taupō* lake-based tourism *(Waitahanui* community case study), *Kāwhia* sea-based tourism *(Oparau* community case study) and Coromandel coastal-based tourism *(Harataunga* community case study).

[176] Economic development has also been driven by forestry, especially in relation to the *Waitahanui* and *Oparau* community case studies (Greenfield, 1996; Hintz, 1955; 1975; Inch, 2002; *Oparau* Centennial Reunion Committee, 1993; 2003; and Pacific Asia Travel Association, 1991).

[177] My reference to 'overseas trade' pertains to the expansive growth industries of the *Māori* community case studies, such as thermal development *(Waitahanui* community case study), iron sand development *(Oparau* community case study) and aqua-cultural development *(Harataunga* community case study) (Gabites et al., 1984; Gartner, 1991; Woolford, 1998; and Schnackenberg, 1926).

[178] For further details see www.*waitangi*tribunal.govt.nz.

Altogether, I postulate that reflexive processes of vertical supremacy between primary and reversed vertical individualisation transcended these three *Māori* river communities with a consequential sustained penetration of the *te ao Māori* stronghold and post-breakdown of the *Māori* people-environment relationship. Therefore, I propose that this resulted in the continued cooptation of vertical epistemology; that being, at an advanced take-up level of the reflexive reconstruction of socio-cultural consolidation in *Aotearoa* local social explosiveness of hazard by the *Māori* river user reflexive self.

7.3.14 Concluding propositions on the reflexive reconstruction of socio-cultural consolidation - accumulated detraditionalisation

I lastly put forward my concluding postulations on the reflexive reconstruction of socio-cultural consolidation by the *Māori* river user reflexive self in late-modern synergy at the present period of *Aotearoa* local reflexive modernisation, by reference to the 'accumulated detraditionalisation' (AD) concept. My key focus is the reflexive processes of detraditionalisation in the transition from primary vertical individualisation to reversed vertical individualisation which is at the heart of the adaptive potential of *ngā tikanga tūpato* in late-modernity. As both phases are reflexively engaged at late-modernity, detraditionalisation 'accumulates' through each one being in transition with the other. Drawing on my postulation of the reversed epistemological association, I lay out my comparative theorising of accumulated detraditionalisation (AD) at the late-modern era in *Table 7.11*.

Table 7.11   A late-modern proposition of accumulated detraditionalisation and the reversed epistemological association - conceptual framework

AD and REA: main phases	
Reversed vertical individualisation	*Primary vertical individualisation*
1. Trigger - periphery challenge to the *te ao Māori* stronghold	
i. immediate challenge/penetration	*i. ongoing challenge/penetration*
2. Initial response - engagement of vertical epistemology through a new, re-ordered value order of *ngā tikanga tūpato* * ***ideational significance***	
ii. immediate re-ordering of the value order	*ii. long term re-ordering of the value order*
3. Follow up response - transmission of the new value order of *ngā tikanga tūpato* * ***observable/practical significance***	
iii. immediate transmission of ngā tikanga tūpato	*iii. long term transmission of ngā tikanga tūpato*

As proposed in the above comparative theorising *(Table 7.11),* accumulated detraditionalisation reflexively engages both the immediate - referring to the reversed vertical individualisation phase, and long-term - referring to the primary vertical individualisation phase, evolutionary knowledge/value change processes of *Māori* adaptation in *Aotearoa* local reflexive modernisation and late-modern synergy. On one side, accumulated detraditionalisation pertains to the present or immediate synergistic processes of *Māori* reflexivity as transcended high and medium abstractly at the secondary stage of land alienation and cooptation of vertical epistemology (as theorised in terms of reversed vertical individualisation in the left-hand column of *Table 7.11*). On the other side, accumulated detraditionalisation refers to the transcending evolutionary timeframe in *Māori* people's reflexive adaptation at the primary stage of land alienation and cooptation of vertical epistemology (as theorised in terms of primary vertical individualisation in the right-hand column of *Table 7.11)*. Therefore, I argue that *Māori* reflexivity is doubly impacted, both high and medium abstractly, by socio-cultural consolidation which 'accumulates' at the present day evolutionary time point of late-modern synergy and *Aotearoa* local reflexive modernisation.

Such accumulated reflexivity is theorised three-fold, termed the 'trigger', 'initial response' and 'follow up response' phases of accumulated

detraditionalisation *(Table 7.11).* At phase one or the trigger phase, I postulate that accumulated detraditionalisation is initiated by vertical epistemological challenge to the *te ao Māori* stronghold - referring to the 'start-point' of the reversed epistemological association in *Table 7.11.* Of course, land individualisation brings a two-fold process of reflexive change; that being, from both a present - referring to the trigger sub-phase of 'immediate challenge/penetration', and ongoing - referring to the trigger sub-phase of 'ongoing challenge/penetration' (*Table 7.11)* time frame of accumulated detraditionalisation.

Second, that is, at phase two or the initial response phase, I argue that accumulated detraditionalisation engages vertical epistemology through a two-pronged value re-ordering process of *ngā tikanga tūpato* - referring to the 'middle-point' of the reversed epistemological association in *Table 7.11.* My theorising relates to the ideological configuration of the *te ao Māori* stronghold in the detraditionalisation of *ngā tikanga tūpato,* termed the 'ideational significance' of accumulated detraditionalisation. On one side, the *te ao Māori* stronghold becomes re-ordered from the present - referring to the immediate response sub-phase of the 'immediate re-ordering of *ngā tikanga tūpato*' *(Table 7.11).* In comparison, the *te ao Māori* stronghold is also re-ordered in terms of the past - referring to the immediate sub-phase of the 'long-term re-ordering of the *ngā tikanga tūpato*' *(Table 7.11).*

In the follow up response phase, I argue that accumulated detraditionalisation transmits the new value order of *ngā tikanga tūpato* in a two-stage transmission process - referring to the 'finish point' of the reversed epistemological association in *Table 7.11.* My theorising pertains to the observable or practical configuration of the *te ao Māori* stronghold in the detraditionalisation of *ngā tikanga tūpato,* termed the 'observable/practical significance' of accumulated detraditionalisation. At one end, the *te ao Māori* stronghold is transmitted with reference to the present - referring to the follow up response sub-phase of 'immediate transmission of *ngā tikanga tūpato*' *(Table 7.11).* At the other end, the *te ao Māori* stronghold is also transmitted with reference to the past -

referring to the follow up response sub-phase of 'long term transmission of *ngā tikanga tūpato*' (Table 7.11).

As these reflexive processes are continuous in late-modern synergy, the trigger phase starts with an already established threshold of vertical epistemological penetration, pre-empted from the other two phases under continual reflexive change. Hence, it is the level of infiltrating verticality, which is most crucial to the reflexive potential of *ngā tikanga tūpato*. I propose that if the *te ao Māori* stronghold is under minimal periphery threat then it is more likely that *ngā tikanga tūpato* can be retained within the prevailing stronghold of *te ao Māori*. However, if the vertical epistemological challenge is persistently extreme, I argue that it increases the propensity for cultural loss of *ngā tikanga tūpato*.

Finally, I argue that socio-cultural consolidation is reconstructed by the *Māori* river user reflexive self through a value prioritisation process based on the detraditionalisation of the characteristic values of *ngā tikanga tūpato (whānau, wairua* and *kaitiaki)*. Thus, the detraditionalisation of *ngā tikanga tūpato* is conceived by reference to an underpinning value hierarchy of cross-tribal local river *kaitiakitanga* (*Table 7.12)*, based on the prioritisation of *whānau, wairua* and *kaitiaki*.

Table 7.12   The value hierarchy of the detraditionalisation of *ngā tikanga tūpato* value in cross-tribal local river *kaitiakitanga* - comparative framework

Waitahanui MCS	*Oparau* MCS	*Harataunga* MCS
highest value priority of ngā tikanga tūpato		
whānau	*wairua*	*kaitiaki*
order of priority of the other values of ngā tikanga tūpato		
whakapapa	*whakapapa*	*whakapapa*
wairua	*whānau*	*wairua*
kaitiaki	*kaitiaki*	*whānau*
aroha	*wāhi tapu*	*aroha*
manaaki	*manaaki*	*manaaki*
mauri	*mauri*	*wāhi tapu*
wāhi tapu	*kotahitanga*	*mauri*
kotahitanga	*aroha*	*kotahitanga*

Thereby, I argue that the above value hierarchy of *ngā tikanga tūpato* is built into the reversed epistemological association of cross-tribal local river

kaitiakitanga. As epistemologically framed in the trigger phase of accumulated detraditionalisation, the value re-ordering process prioritises the characteristic values at the initial response phase. Such a reflexive engagement with the penetration of vertical epistemology brings either the retainment or loss of *ngā tikanga tūpato*; that being, an ideological configuration of cultural loss/survival. The re-ordered characteristic value scheme is then employed at the follow up response phase; that being, a practice/observable configuration of cultural loss/survival.

I note here that it was beyond the scope of this study to delve deeper into other possible ideological configurations of cultural loss/survival. This matter is later considered in *Chapter 8* regarding potential areas of further research.

To review, after briefly explaining my articulation of the mismatched display of socio-cultural nuanced reality locally, reflexive theory and reflexive practice on growth over conservation were correlated. I then presented my concluding postulations on the reflexive reconstruction of socio-cultural consolidation in accumulated detraditionalisation.

7.3.15 Summary

In summary, this section presented my comparative analysis on local applications of reflexive practice in the three *Māori* river community case studies, focusing on the correlated findings of potential late-modern synergy under the epistemological leaning toward growth over conservation. Before reflexive practice was correlated with reflexive theory socio-culturally (and the reverse), I introduced the theory-practical conceptual model from which local applications of late-modern synergy were compared.

7.4 Conclusion

In conclusion, *Chapter 7* further added to *Part 2* (Balance of Values) of the thesis, and completed my theoretical articulation of reflexive practice on the practical side of nuanced problem solving. The chapter reported on the growth over conservation correlated finding of late-modern synergy from the search for synergistic balance in the reflexive practice of cross-tribal local river

kaitiakitanga and the three *Māori* river community case studies. In *Chapter 8,* the study is recapitulated in light of my conclusions of synergistic value change, with specific regard to implications of the thesis on the advancement of *Māori*.

Thereby, *Chapter 7* provides original *Māori* And/Also theory empirical/analytical research on the search for synergies between *te ao Māori/*indigenous knowledge and western scientific knowledge through my comparative analysis of the reflexive practice of cross-tribal local river *kaitiakitanga* and the three *Māori* river case studies under the *Resource Management Act 1991.* Drawing on my comparison of *Māori/*indigenous adaptation to the vertical attributes of *Aotearoa* local reflexive modernisation and *Aotearoa* local explosiveness of hazard, synergistic value change was elucidated both socio-culturally and cross-tribally in the underpinning verticality epistemological framework of the Westminster-Keynesian system at the local level of *Aotearoa/*national environmental governance and change.

To finish, my local postulations of late-modern synergy and *Māori* reflexivity more cross-tribally and socio-culturally brought forth the potential synergies between *te ao Māori* and western science in the three *Māori* river community case studies under the *Resource Management Act 1991.* Lastly, *Chapter 8* re-examines these propositions from the concluding argument of the thesis, focusing on potential contributions of the thesis toward a *Māori* reflexive viewpoint of synergy.

Chapter 8
Towards a *Māori* reflexive viewpoint of synergy?
Implications for *Māori* development

8.1 Introduction

In this final chapter, I review my investigation of the search for synergy by comparing the difference and affinity of values, termed 'synergistic value change'.

The thesis was driven on a *Māori* reflexive viewpoint of synergy. In *Chapter 8,* I pay specific regard to the implications of the thesis for the advancement of *Māori*.

Accordingly, the chapter is framed in a final discussion format. The chapter is comprised of two main parts. In the first, I provide a recapitulation of the thesis. The second reports on my conclusions of synergistic value change.

8.2 The search for synergy - recapitulation of the thesis

This study embodies the search for synergy, as recapitulated in following nine sub-sections. Sub-sections *8.2.1 - 8.2.5* revisit the problem context *(8.2.1 - 8.2.4)* and research approach *(8.2.5).* The remaining sub-sections review how the thesis achieved a *Māori* reflexive viewpoint of synergy.

8.2.1   My spiritual calling and the detraditionalisation of ngā tikanga tūpato - the adaptive potential of Māori reflexivity

It was the spiritual vision of the three (*Waitahanui, Oparau* and *Harataunga*) rivers that prompted the cultural obligation to pursue a greater awareness of my own people's adaptive or reflexive strategies (*'Māori* reflexivity') of *ngā tikanga tūpato, Māori* conservation and use values ('detraditionalisation'). Since time immemorial, *te ao Māori* has been constantly re-invented by *Māori* people to deal with the impacts of change. In this research, such cultural innovation was theorised in terms of the detraditionalisation of *ngā tikanga tūpato* or the *Māori* adaptive strategies (referring to the non/re-invention of *Māori tikanga*) of cultural loss (referring to the non-invention of *Māori tikanga*) and survival (referring to the re-invention of *Māori tikanga*).

Indeed, *Māori* people's dynamic and reflexive co-existence of sustained environmental use and preservation*,* termed 'the *Māori* people-environment relationship'*,* is revered worldwide. In sum, I was spiritually enlightened about the adaptive potential of *Māori* reflexivity or the '*Māori* reflexive stance', from the outset of the research.

8.2.2   Contesting value systems under the Resource Management Act 1991 - the denial of the nuanced reality of Māori reflexivity

I became aware of several gaps, limitations and assumptions about contesting *Māori, ngā tikanga tūpato* and western scientific conservation and use values or 'nuanced reality' under the *Resource Management Act 1991* (McKinley, 2003; Simon, 2000; 2001; 2003; and Webb, 2003). An extremely narrow viewpoint of *Māori tikanga* stood out (McCan et al., 1990; Klein, 1999; and Ward, 1990), and was attributed to a constant denial of the nuanced reality of *Māori* reflexivity (Simon, 2000; 2003; 2006j; 2006k).

8.2.3   Reconciliation of values - research goal

An ongoing failure to address the reconciliation of values prevailed. At the crux, was a frequent emphasis on the differences/distinctions between *Māori* and western scientific knowledge paradigms (referring to *Māori* people's resistance to change), termed 'difference/distinction discourse' *(Mahuta,* 1989; and Nuttall et al., 1995), which overlooked the similarities/affinities or *Māori* people's reconciliation to change known as 'similarity/affinity discourse'. Such And/Or-oppositional theorising, was confined to the opposite ends of knowledge/value change, termed 'conservation over growth, and growth over conservation', rather than engaging with the subtleties (termed 'And/Also') between contesting discourses, termed 'conservation versus growth, and growth versus conservation'. Hence, the full potential of the nuanced reality of *Māori* reflexivity was ignored.

Such pre-occupations have unsuccessfully dealt with existing epistemological contestations, that hamper the advancement of *he rangatiratanga,* a *Māori* authority, and *he katiakitanga,* a *Māori* stewardship role under the *Resource*

Management Act 1991 (Joseph et al., 2002; *Kawharu,* 1998; 2002; Nuttall et al., 1995; and Solomon, 2000).

Overall, *he mātauranga te ao tūroa*, *Māori* ecological knowledge (IK) and *ngā tikanga tūpato,* remain at the margin of the official scientific epistemological framework underpinning environmental governance and management regimes of *Aotearoa.* This was especially relevant in *Aotearoa* environmental performance indicator development under the *Resource Management Act 1991* (Gardiner et al., 1998; Ministry for the Environment, 1996; and *Tuanuku*, 1998) and I wondered what contribution the reflexive potential of *ngā tikanga tūpato* might have to make.

It was therefore the goal of this thesis:

To better explain the reconciliation of values in environmental performance indicator development under the Resource Management Act 1991 and to improve current thought on Māori/indigenous advancement in world and national/Aotearoa scholarship.

8.2.4 *Aotearoa synergistic value change and nuanced problem solving*

My preliminary review of literature (Simon, 2000; 2006f; 2006m; 2006p; 2006x) revealed that a reflexive comparison of the difference and affinity of *Māori, ngā tikanga tūpato* and western scientific conservation and use values known as 'nuanced problem solving', in the context of environmental governance was relatively un-explored. Considering the enduring capacity of the *Māori* people-environment relationship, such a gap of knowledge was potentially significant.

 In *Māori* people's reflexive adaptation to the changing environmental context of *Aotearoa* or '*Aotearoa* synergistic value change', the spiritual vision compelled me to look at my own people's adaptive strategies of *ngā tikanga tūpato,* as *kaitaki,* environmental stewards or caregivers, of the three rivers.

Thus, I investigated the search for synergy between *Māori, ngā tikanga tūpato* and western scientific conservation and use values in the environmental

management and governance of the five environmental authority case studies of the Ministry for the Environment, Environment *Waikato, Tāupo* District Council, Thames-Coromandel District Council and *Otorohanga* District Council and of three *Te Ika a Maui (Waitahanui, Oparau* and *Harataunga)* North Island rivers as case studies under the *Resource Management Act 1991,* with specific regard to the formulation and implementation of environmental performance indicators.

More specifically, I focused on the reflexive reconstruction of river *kaitiaki* and environmental worker identity and values at the interface of knowledge/value change. This was theorised in the grounded empirical investigation of *Aotearoa* synergistic value change two-fold; that being,

    i.   by reference to 'cross-tribal local river *kaitiakitanga'* with regard to the river *kaitiaki* of the three *Māori* river community case studies in the study; and

    ii.   by reference to 'inter-governmental institutional environmental governance' with regard to the environmental workers of the five environmental authority case studies in the study.

8.2.5   *A Māori reflexive viewpoint of synergy*

However, for synergy to be realised it needed to overcome the abandonment of *Māori* reflexivity. It was therefore the aim of this thesis:

To advance the theoretical understanding of synergy in environmental performance indicator development under the Resource Management Act 1991, by comparing the conflict and convergence of Māori, ngā tikanga tūpato and western scientific conservation and use values throughout the evolution of synergy in the environmental governance and management of three Aotearoa rivers from the contemporary period of Aotearoa synergistic value change.

To help me address the limitations I found in the current engagement with reflexive or synergistic processes of *Māori* adaptation to change, two central research questions were driven on a *Māori* reflexive viewpoint of synergy; that is,

Research question 1: *Can synergy be achieved through recognition of both affinity/similarity and difference/distinction?*

Research question 2: *Could such synergy underpin effective Māori development?*

These questions were answered through four research objectives (with tasks and outputs) on the articulation of a modernity knowledge/value trajectory and continuum of *te ao Māori* and western science from macro theory down (formulation stage), and from the practical flax roots up (application stage). In the conceptual and methodological research objectives of its formulation from macro theory downwards, the subtleties of nuanced reality transcending upwards at the grounded context of the case study research were realised. In the empirical and analytical research objectives of its application from the practical flax roots upwards, the subtleties of nuanced reality transcending downwards at the macro-level theory on modernity were realised.

8.2.6 *The comparative analysis of values*

Thus, the research questions, aim and objectives were addressed through a two-part comparative analysis of values (termed the 'comparison of values' and the 'balance of values?'). *Part One* of the thesis developed the comparison of values conceptually and methodologically. This dealt with the macro level theory-conceptual and theory-methodological non-engagement of *Māori* reflexivity.

In *Part Two* of the thesis, I developed the balance of values empirically and analytically. This dealt with the medium abstracted (termed 'meso') and low abstracted or concretised (termed 'micro') theory-empirical and theory-analytical non-engagement of *Māori* reflexivity. Taken together, a *Māori* reflexive viewpoint of synergy was enabled by an all-encompassing engagement of the nuanced reality of *Māori* reflexivity from macro theory down and from the practical flax roots up.

8.2.7   My Māori theorising of the correlation of synergy

I articulated my reflexive engagement of the concretised and abstracted nuanced reality of *Māori* reflexivity two-fold. Theory, or 'side a', was used to theorise social reality, or 'side b', and conversely, social reality/side b informed my articulation of theory/side a, termed my '*Māori* theorising'. As *Māori* reflexivity became realised within the totality of theory and reality, synergy was correlated between them. This refers to my *Māori* theorising of the correlation of synergy in the thesis, as diagrammatically re-framed here in *Figure 8.1*.
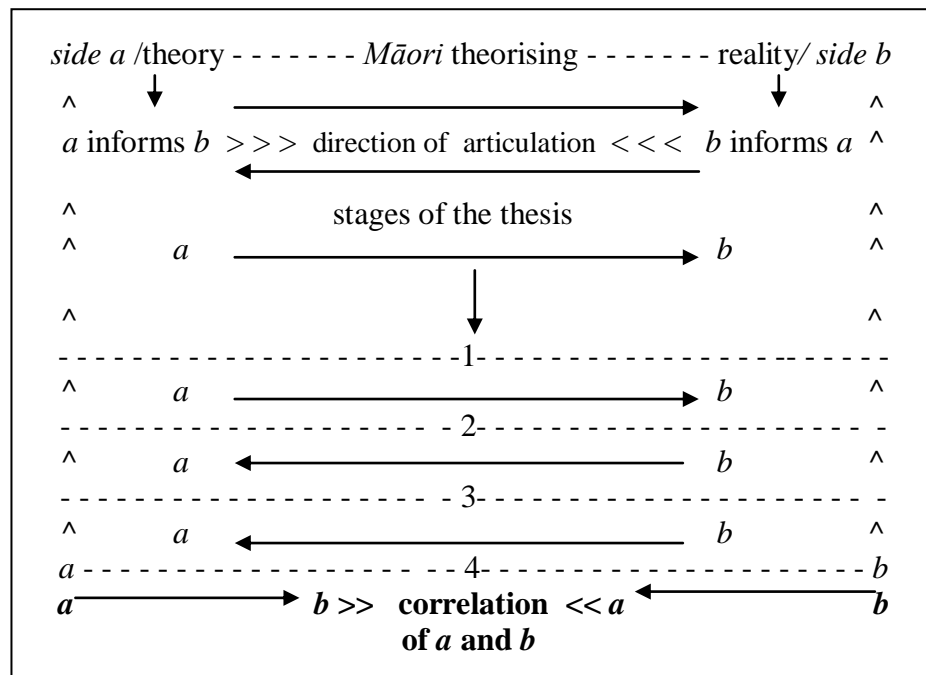
**Figure 8.1   Schema of my *Māori* theorising of theory and reality -
the correlation of synergy**

8.2.8 My pro-Māori use of theory - cultural/theoretical framework of Māori reflexivity and synergy

Therein, *Māori* culture was injected in the use of theory, termed my 'pro-*Māori* use of theory'. The essentialness of culture was relayed through five *Māori whakatāukī,* whereas the essentialness of theory was set out through six main attributes (issues, actions, outcomes, limitations, implications and further research) of my theoretical argument. As *Māori* reflexivity became realised within the inter-relatedness of theory and culture, synergy was understood from both the *Māori* cultural and theoretical sides of my pro-*Māori* theorising, as re-stated here in *Table 8.1.*

Table 8.1   Restatement of my pro-*Māori* use of theory and theoretical argument of the study- conceptual framework

Issues	Actions	Outcomes	Limitations	Implications	Future Research
Main attributes of the theoretical argument					
Issues	*Actions*	*Outcomes*	*Limitations*	*Implications*	*Future Research*
Main whakatāukī, proverbial theme - 'Progress forward and Māori reflexivity'					
PART 1: COMPARISON OF VALUES					
Stage 1 whakatāukī, proverbial theme - 'The synergistic potential of Māori reflexivity'					
contesting value systems	*Māori* theorising of the difference and affinity of values	*Māori* synergistic approach	unrealised potential of synergy	reconciliation of values	*Māori* reconciliatory approaches
Stage 2 whakatāukī, proverbial theme - 'An evolutionary viewpoint of Māori reflexivity'					
Reflexive change	*Māori* theorising of reflexive change	*Māori* viewpoint of reflexive change	*te ao Māori* as non-reflexive	reflexive processes of cultural loss and cultural survival	*Māori* adaptive strategies of cultural loss and survival
PART 2: BALANCE OF VALUES?					
Stage 3 whakatāukī, proverbial theme - 'The adaptive strength of Māori reflexivity'					
nuanced reality of synergy	*Māori* theorising of nuanced reality	*Māori* viewpoint of nuanced reality	oppositional theorising	nuanced reality of the divergences and convergences of synergy	*Māori* nuanced problem solving
Stage 4 whakatāukī, proverbial theme - 'The adaptive endurance of Māori reflexivity'					
reflexive practice of synergy	*Māori* theorising of reflexive practice	*Māori* viewpoint of reflexive practice	mono-cultural viewpoint of reflexive practice	cross-cultural reflexive practice	cross-cultural adaptive strategies

8.2.9   Summarised overview of the thesis

To review, synergy was realised in the thesis four-fold:

i.   conceptually - through theoretically unlocking synergistic value change at the conceptual research level;

ii.   methodologically - through theoretically unlocking synergistic value change at the methodological research level;

iii.   empirically - through theoretically unlocking synergistic value change at the empirical research level; and

iv.   analytically - through theoretically unlocking synergistic value change at the analytical research level.

I provide a summarised overview of the thesis in *Tables 8.2a,b.*

Table 8.2a   Summarised overview of Part One of the thesis - conceptual framework

SUMMARISED OVERVIEW OF THE SEVEN SUB-PARTS OF PART ONE: COMPARISON OF VALUES	
Introductory section of the thesis *1. Abstract -* • synthesis of the search for synergy • summary of the research *2. Table of Contents -* • glossary of the *Māori* terms • glossaries of the theoretical terms • glossary of the acronyms of theory • glossary of the concepts of theory *3. Preface -* • opens the thesis with *tikanga* practices of *he moe tapu, te taha wairua,* and *mihi* • highlights the research problem • highlights the research context • highlights the research approach *Main section of the thesis* *4. Prelude -* • overviews the four main stages of the theoretical argument of the study • introduces the acronyms and concepts of value change at theoretical stage 1 of the study • overviews my *Māori* theorising of theory and reality • overviews my pro-*Māori* use of theory and the *Māori whakatāukī* of the study	*4. Prelude (continued) -* • introduces the *Māori*-people environment relationship and *ngā tikanga tūpato* • identifies the *Māori* methods of the study • introduces my *Māori* reflexive stance • introduces the theoretical applications of modernity theory *5. Chapter 1 -* • introduces the investigation of the search for synergy • introduces the comparison of the conflict and convergence of values • overviews the theoretical applications of modernity theory and nuanced problem solving • outlines the thesis format and content *6. Chapter 2 -* • introduces reflexivity at theoretical stage 2 of the study • introduces the acronyms and concepts of reflexivity • introduces stage 2 of my *Māori* theorising of theory and reality • introduces stage 2 of my pro- *Māori* use of theory and the stage 2 *Māori whakatāukī* • expands on the macro theoretical development of the comparison of values • comparatively analyses the comparison of values throughout modernity *7. Chapter 3 -* • overviews the theory-methodological development of And/Also nuanced problem solving • overviews the theory-methodological application of And/Also nuanced problem solving • introduces the *Māori* and non-*Māori* methods of the study

Table 8.2b Summarised overview of Part Two of the thesis - conceptual framework

SUMMARISED OVERVIEW OF THE FIVE SUB-PARTS OF PART TWO: BALANCE OF VALUES?	
<u>*Main section of the thesis continued*</u> *8. Chapter 4 -* • introduces nuance reality at theoretical stage 3 of the study • introduces the acronyms and concepts of nuanced reality • introduces stage 3 of my *Māori* theorising of theory and reality • introduces stage 3 of my pro-*Māori* use of theory and the stage 3 *Māori whakatāukī* • expands on the meso theoretical development of the balance of values • comparatively analyses the balance of values in the nuanced reality of the sustainable development paradigm and *Resource Management Act 1991* both globally and nationally *9. Chapter 5 -* • expands on the meso theoretical development of the balance of values • comparatively analyses the balance of values in the nuanced reality of environmental monitoring and environmental performance indicator development both globally and nationally	*10. Chapter 6 -* • introduces reflexive practice at theoretical stage 4 of the study • introduces the acronyms and concepts of reflexive practice • introduces stage 4 of my *Māori* theorising of theory and reality • introduces stage 4 of my pro-*Māori* use of theory and the stage 4 *Māori whakatāukī* • expands on the micro theoretical development of the balance of values • comparatively analyses the balance of values in the reflexive practice of the five environmental authority case studies *11. Chapter 7 -* • expands on the micro theoretical development of the balance of values • comparatively analyses the balance of values in the reflexive practice of the three *Māori* river community case studies *12. Chapter 8 -* • summarises the macro-meso-micro theoretical development of the comparison and balance of values • recapitulates the search for synergy in the study • reviews my conclusions of synergistic value change

Altogether, this section *(8.2)* provided a recapitulation of the search for synergy by a comparison of the difference and affinity of values, termed 'synergistic value change'. The key focus being on the *Māori* reflexive viewpoint of synergy, which was addressed by research questions, aim, objectives on the engagement of nuanced reality.

Most importantly, I identified that *Māori* reflexivity was realised from my *Māori* standpoint on modernity theory; this being, the focal point in the remainder of the chapter.

8.3   Conclusions of synergistic value change

This final section completes the thesis with my conclusions of synergistic value change in the study. The concluding argument is scoped generally then more specifically throughout the thesis.

8.3.1   Modernity and change - the reconciliation of values

My *Māori* standpoint on modernity was at the heart of the reconciliation of contesting *Māori* and western scientific conservation and use values under the *Resource Management Act 1991*. Modernity embraces the western scientific knowledge paradigm and change. However, *te ao Māori* was embedded in tradition and dislocated from change. My *Māori* standpoint of modernity theoretically re-located *te ao Māori* and western science in synergistic value change. Through adopting modernity, I confirmed that they were both reconciled in synergistic value change under the *Resource Management Act 1991*.

8.3.2   Synergy and the Māori, ngā tikanga tūpato and western scientific conservation and use value continuum

I have discovered that the conflict and convergence of values were located and detected in the evolution of synergistic value change. This was confirmed by the formulation and application of an evolutionary value continuum of synergy (that is, the '*Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum') from modernity (the formulation stage) to world and

Aotearoa environmental governance under the *Resource Management Act 1991* (the application stage).

In the formulation stage, the conflict and convergence of values were located throughout the evolution of the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum in modernity. In the application stage, the conflict and convergence of values were detected along the value continuum fourfold.

At the world and national/*Aotearoa* environmental governance and change levels more generally in the evolution of sustainability and the *Resource Management Act 1991*, both value systems transcended the entire value continuum of synergy. Thus, they were detected in synergistic value change from both value poles (referring to growth over conservation, and conservation over growth) and the transition between them (referring to growth versus conservation, and conservation versus growth); that is, with an epistemological leaning toward growth over conservation.

At the world and national/*Aotearoa* environmental governance and change levels more specifically in the evolution of environmental monitoring and environmental performance indicator development, both value systems also transcended the entire value continuum of synergy. Hence, they were additionally detected in synergistic value change from both value poles of growth over conservation, and conservation over growth, and the transition between them in growth versus conservation, and conservation versus growth that is, with an epistemological leaning toward growth over conservation.

At the national/*Aotearoa* environmental governance level more institutionally in inter-governmental environmental governance and management regimes of the five environmental authority case studies, both value systems also transcended the entire value continuum of synergy. Thereby, they were additionally detected in synergistic value change from both value poles of growth over conservation, and conservation over growth, and the transition

between them in growth versus conservation, and conservation versus growth; that is, with an epistemological leaning toward growth over conservation

At the national/*Aotearoa* environmental governance level more locally in cross-tribal *kaitiakitanga* of the three *Māori* river community case studies, both value systems also transcended the entire value continuum of synergy. Hitherto, they were additionally detected in synergistic value change from both value poles of growth over conservation, and conservation over growth, and the transition between them in growth versus conservation, and conservation versus growth; that is, with an epistemological leaning toward growth over conservation.

Therefore, the potential for synergy was detected along the value continuum despite the balance of values being outweighed by growth over conservation at both the world and national/*Aotearoa* environmental governance and change levels of synergistic value change.

Taken together, by locating and detecting synergy in the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum from modernity to world and *Aotearoa* environmental governance and change, I confirmed that both value systems were reconciled in the evolution of synergistic value change under the *Resource Management Act 1991*.

8.3.3 Using (capabilities) and extending (potentialities) modernity theory - implications for Māori

Nevertheless, I found that the heuristic uses and applications of modernity theory (referring to the capabilities of its use and application) had to be extended (referring to the potentialities of its extended use and application) from the formulation to the application of synergistic value change. This confirmed that it was both the capabilities and potentialities of modernity theory that emancipated the *Māori* reflexive viewpoint of synergy. These are next reviewed in relation to four main areas of knowledge gap contributions of the thesis in both the formulation and application of synergistic value change. I then consider the implications of the thesis for the advancement of *Māori*.

8.3.4 Knowledge gap contribution one - capabilities of modernity theory in the formulation of synergistic value change

The first contribution of the thesis to knowledge pertains to the heuristic uses of modernity theorising in the formulation of synergistic value change. These capabilities of modernity theory are differentiated by the use of modernity theory as a heuristic device of value change and value comparison and its other heuristic uses such as contextualising and conceptualising change. Critiquing change; and the comparative, cross-cultural, evolutionary, inter-disciplinary and multi-dimensional heuristic uses were the other capabilities of modernity theory in knowledge gap contribution one of the thesis.

8.3.5 Knowledge gap contribution two - capabilities of modernity theory in the application of synergistic value change

The second contribution to knowledge relates to the heuristic applications of modernity theorising in the application of synergistic value change. I distinguish these capabilities of modernity theory by reference to the application of modernity theory as the *Māori* and western scientific conservation and use value continuum of macro modernity and its other applications such as locating and detecting synergistic value change at the growth and conservation value poles of the value continuum. Locating and detecting synergistic value change in transitory processes of conservation versus growth and growth versus conservation were the other capabilities of modernity theory in knowledge gap contribution two of the thesis.

8.3.6 Knowledge gap contribution three - potentialities of modernity theory in the formulation of synergistic value change

The third contribution to knowledge pertains to extended heuristic uses of modernity theorising in the formulation of synergistic value change. These potentialities of modernity theory are differentiated by the extended heuristic uses of modernity theory as my *Māori* standpoint on modernity and its other extended heuristic uses such as the *Māori* reflexive stance and *Māori* theorising of theory and reality in the study. The pro-*Māori* theorising of theory and culture, *Māori* theorising of reflexive modernisation and synergy; *Māori* theorising of epochal change, epochal development and epochal contours; and

Māori theory-methodological development of value comparison along the modernity value continuum were the other potentialities of modernity theory in knowledge gap contribution three of the thesis.

8.3.7 Knowledge gap contribution four - potentialities of modernity theory in the application of synergistic value change

In comparison, the fourth contribution to knowledge relates to extended heuristic applications of modernity theorising in the application of synergistic value change. I distinguish these potentialities of modernity theory by reference to the application of modernity theory as the *Māori* and western scientific conservation and use value continuum of meso and micro modernity and its other applications such as the *Māori* theory-methodological application of value comparison along the meso and micro modernity value continuum. The theory-empirical and theory-analytical applications of the meso and micro conservation and growth value poles; and conservation versus growth and growth versus conservation value exemplars of synergistic value change were the other contributions of modernity theory.

8.3.8 Implications for Māori advancement and future areas of research

However, as the capabilities and potentialities were heuristically used and applied with considerable original *Māori* modernity theorising, much more research is required to further elucidate the *Māori* reflexive viewpoint of synergy; that being, at the heart of implications of the thesis for *Māori* advancement.

My suggested future areas of research are distinguished as 'future areas one and two of synergistic value change'. On one side, is research constituted on the significant amount of theoretical re-thinking that was required to construct a *Māori* standpoint on modernity and an And/Also nuanced problem solving stance in the formulation of synergistic value change. For future research, I define four sub-areas:

- Basic theoretical attributes of a *Māori* standpoint on modernity;

- Basic theoretical attributes of *Māori* And/Also nuanced problem solving;

- Basic methodological attributes of *Māori* And/Also nuanced problem solving; and

- Basic theoretical attributes of nuanced reality.

A summarised overview of my suggestions on these four sub-areas of the two main areas *Māori* standpoint on modernity and And/Also nuanced problem solving stance of future research area one are briefly outlined in *Table 8.3*. Considering that the synergistic research model of the thesis was developed and applied *(Postscript, Appendix 9.1)* simultaneously with regard to suggested potential areas of research a - d (King et al., 2006; *Patete* et al., 2006; and Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005; 2006a-y; 2007a-c), I also provide recommendations based on my reflexive practice of synergy in futuristic terms of *Māori* advancement in these research areas *(Appendices 8.1a,b,c,d)*.

Table 8.3   Formulation of synergistic value change - suggested areas of future research

Research area a: Basic theoretical attributes of a Māori standpoint on modernity
- *Māori* theoretical conceptualisation of modernity and change, such as epochal development - *Māori* theoretical contextualisation of modernity and change, such as epochal change analysis - *Māori* theoretical critiquing of modernity and change, such as epochal contour analysis
Research area b: Basic theoretical attributes of Māori And/Also nuanced problem solving
- *Māori* nuanced problem solving on the theoretical development and application of the And/Also and And/Or stances - *Māori* nuanced problem solving on the theoretical development and application of the subtleties of nuanced reality - *Māori* nuanced problem solving on the theoretical development and application of cultural loss and survival
Research area c: Basic methodological attributes of Māori And/Also nuanced problem solving
- *Māori* nuanced problem solving on the theory-methodological development and application of the And/Also and And/Or stances - *Māori* nuanced problem solving on the theory-methodological development and application of the subtleties of nuanced reality - *Māori* nuanced problem solving on the theory-methodological development and application of cultural loss and survival
Research area d: Basic theoretical attributes of nuanced reality
- Pro-*Māori* nuanced reality theorising on the *Māori* reflexive self - Pro-*Māori* nuanced reality theorising on the contemporary change process of reflexive modernisation - Pro-*Māori* nuanced reality theorising on the contemporary change phenomenon of risk

On the other side, future areas of research two is constituted on the significant amount of theoretical re-thinking that was required to define the meso and micro modernity value continuums in the application of synergistic value change. For my research purposes, I define four sub-areas; that is,

- Basic attributes of the meso modernity value continuum on world (sustainability) and national/*Aotearoa (Resource Management Act 1991)* environmental governance more generally;

- Basic attributes of the meso modernity value continuum on world and national/*Aotearoa* (environmental monitoring and environmental performance indicator development) environmental governance more specifically;

- Basic attributes of the micro modernity value continuum on national/*Aotearoa* (five environmental authority case studies) environmental governance more generally; and

- Basic attributes of the micro modernity value continuum on national/*Aotearoa* (three *Māori* river community case studies) environmental governance more specifically.

A summarised overview of my suggestions on these four sub-areas of the two main areas (meso and micro modernity value continuums) of future research area two are briefly outlined in *Tables 8.4a,b.* Again, considering that the synergistic research model of the thesis was developed and applied *(Postscript)* simultaneously with regard to suggested potential areas of these research areas (King et al., 2006; *Patete* et al., 2006; and Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005; 2006a-y; 2007a-c), I provide recommendations based on my reflexive practice of synergy in futuristic terms of *Māori* advancement in these research areas *(Appendices 8.1e,f,g,h).*

Table 8.4a   Meso modernity value continuum - suggested areas of future research

World (sustainability) and national/Aotearoa (Resource Management Act 1991) environmental governance
- Theory-empirical development of synergy from the growth pole of the *Māori* and western scientific conservation and use value continuum in the evolution of sustainability and the *Resource Management Act 1991* - Theory-empirical development of synergy from the conservation pole of the *Māori* and western scientific conservation and use value continuum in the evolution of sustainability and the *Resource Management Act 1991* - Theory-empirical development of synergy from the conservation versus growth exemplar of the *Māori* and western scientific conservation and use value continuum in the evolution of sustainability and the *Resource Management Act 1991* - Theory-empirical development of synergy from the growth versus conservation exemplar of the *Māori* and western scientific conservation and use value continuum in the evolution of sustainability and the *Resource Management Act 1991*
World and national/Aotearoa environmental monitoring and environmental performance indicator development
- Theory-empirical development of synergy from the growth pole of the *Māori* and western scientific conservation and use value continuum in the evolution of environmental monitoring and environmental performance indicator development - Theory-empirical development of synergy from the conservation pole of the *Māori* and western scientific conservation and use value continuum in the evolution of environmental monitoring and environmental performance indicator development - Theory-empirical development of synergy from the conservation versus growth exemplar of the *Māori* and western scientific conservation and use value continuum in the evolution of environmental monitoring and environmental performance indicator development - Theory-empirical development of synergy from the growth versus conservation exemplar of the *Māori* and western scientific conservation and use value continuum in the evolution of environmental monitoring and environmental performance indicator development

Table 8.4b   Micro modernity value continuum - suggested areas of future research

Aotearoa environmental governance/management regimes and inter-governmental environmental authorities
- Theory-empirical development of synergy from the growth pole of the *Māori* and western scientific conservation and use value continuum on the evolution of national/*Aotearoa* environmental governance/management regimes in inter-governmental environmental authorities - Theory-empirical development of synergy from the conservation pole of the *Māori* and western scientific conservation and use value continuum on the evolution of national/*Aotearoa* environmental governance/management regimes in inter-governmental environmental authorities - Theory-empirical development of synergy from the conservation versus growth exemplar of the *Māori* and western scientific conservation and use value continuum on the evolution of national/*Aotearoa* environmental governance/management regimes in inter-governmental environmental authorities - Theory-empirical development of synergy from the growth versus conservation exemplar of the *Māori* and western scientific conservation and use value continuum on the evolution of national/*Aotearoa* environmental governance/management regimes in inter-governmental environmental authorities

Aotearoa environmental governance - Cross-tribal kaitiakitanga and local Māori communities
- Theory-empirical development of synergy from the growth pole of the *Māori* and western scientific conservation and use value continuum on the evolution of cross-tribal *kaitiakitanga* in local *Māori* communities - Theory-empirical development of synergy from the conservation pole of the *Māori* and western scientific conservation and use value continuum on the evolution of cross-tribal *kaitiakitanga* in local *Māori* communities - Theory-empirical development of synergy from the conservation versus growth exemplar of the *Māori* and western scientific conservation and use value continuum on the evolution of cross-tribal *kaitiakitanga* in local *Māori* communities - Theory-empirical development of synergy from the growth versus conservation exemplar of the *Māori* and western scientific conservation and use value continuum in the evolution of cross-tribal *kaitiakitanga* in local *Māori* communities

To summarise, I reviewed the capabilities and potentialities of modernity theory from the formulation to the application of synergy. The implications of the thesis for *Māori* advancement were considered in the light of suggested potential future areas of research toward the emancipation of the *Māori* reflexive viewpoint of synergy.

8.3.9   Te taha wairua and the use of Māori culture - final note

To me, it is culturally appropriate to provide a final note of deep regard and acknowledgement of *te taha wairua* and the use of *Māori* culture in this thesis, which included the utilisation of *Māori whakatāukī (Appendix i.ii)*.

As my research journey comes to a close, I ask that *ngā wairua kaitiaki o ngā awa* be brought forth to spiritually endorse and sanction these closing arguments on the *Māori* reflexive viewpoint of synergy. Finally, I also ask for a spiritual blessing for future research efforts to progress this work forward in the advancement of our people.

8.4   Conclusion

In this chapter, I put forward the concluding argument of the thesis. In the first part, the search for synergy by a comparison of the conflict and convergence of values (termed 'synergistic value change) was recast. In the second part, I presented my conclusions of synergistic value change in the thesis.

I argue the thesis has contributed toward a *Māori* reflexive viewpoint of synergy; thus, implicating the thesis for the advancement of *Māori*. However, theory and practice were correlated from both the capabilities and potentialities of modernity theory. Although, expanded synergistic theorising was found, I believe that further research is required to progress these contributions to knowledge.

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VOLUME 2
APPENDICES

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MĀORI TIKANGA, SCIENCE, RESOURCE MANAGEMENT AND LAW

Volume 2   Appendices

**A thesis
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of
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LIST OF APPENDICES

APPENDIX i.i   LIST OF THE RESEARCH FUNDING SOURCES

Primary research funding sources
- *Ngā Pae o te Maramatanga*   - *Tainui* Development Corporation   - *Tuwharetoa* Genesis Group   - University of *Waikato*
Other research funding sources
- Birthright   - East *Taupō* Lands Trust   - Lake *Taupō* Forest Trust   - Local Government New Zealand   - Ministry for the Environment   - Ministry of Social Development   - *Onuku Māori* Lands Trust   - *Opawa Rangitoto (Meremere* 438) Trust   - *Opepe* Farm Trust   - Resource Management Law Association of New Zealand Incorporated   - *Rotoiti* 15 Trust   - *Te Matai* No 1 and 2 Blocks Trust   - *Te Ohu Kai Moana*   - *Tuwharetoa Māori* Trust Board   - *Wharetoto* 5B Block Incorporation

APPENDIX i.ii   THE *MĀORI WHAKATĀUKĪ,* PROVERBS OF THE STUDY - FURTHER DETAILS

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i.   The main *whakatāukī,* proverb of the study -

'E tipu, e rea, mō ngā rā o tōu ao; ko tō ringa ki ngā rakau a te Pākehā hei ora mō to tinana, ko tō ngākau ki ngā taonga a ō tīpuna hei tikitiki mō tō māhunga, ā ko tō wairua ki te Atua, nāna nei ngā mea katoa',
'Grow and branch forth for the days of your world;
Your hand to the tools of the *Pākehā* for the welfare of your body,
Your heart to the treasures of your ancestors as adornments for your head
Your spirit with God, who made all things'.

Further details:

   The lines were written for *Rangi,* daughter of John Bennett, by *Apirana Ngata* (Mead et al, 2001: 48).

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ii.   The stage 1 *whakatāukī,* proverb of the study -

'Kotahi te kahao o te ngira e kuhuna ai te miro ma, te miro pango, te miro whero',
'There is but one eye of a needle, through which white, black and red cotton are threaded'.

Further details:

   This is comparatively modern and was quoted by *Kingi Potatau* the first *Māori* King. In the year 1858, a large gathering assembled at *Ngaruawahia* for the religious ceremony of proclaiming *Potatau* as King. The rite was performed by *Wiremu Tamehana Tarapipi.* Present at the meeting was the high chief of the *Tuwharetoa* tribe, *Te Heuheu,* who during the course of his oration said: '*Potatau,* today I anoint you *kingi* for the *Māori* people. You and Queen Victoria are today united. Let the religion of Jesus be your mantle to protect you; and may the laws of the land be the mat on which to place your feet for ever.' To this, *Potatau* replied: 'There is but one eye of a needle, through which white, black and red cotton are threaded. Hereafter, hold fast to charity, uphold the laws and be firm in the faith' *(Ihaka,* 1957a: 41).

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iii.   The stage 2 *whakatāukī,* proverb of the study -

'E kore ahau e ngaro, he kakano i ruia mai i Rangiatea',
'I will not disappear, the seed broadcast from *Rangiatea,* heaven'.

Further details:

   This proverb originates from the *Aotea* canoe. The tribes which have used this proverb from its very beginning till now are the *Ngāti Ruanui,* and some of the sub-tribes within the *Ngarauru*

Stage 2 & 3 *whakatāukī* continued

tribe of *Taranaki.* Before I proceed to explain the meaning of this proverb, a few comments regarding some of the words used are necessary. *Rangiatea* is the name given to a group of islands known in English as the Society Group. However, a search of a map of the islands in the Pacific Ocean reveals the name *Rangiatea* does not appear, but that *Raiatea* is the name given. It is due to the pronunciation of the natives of those islands that the word appears as *Rangiatea,* but *Rangiatea* and *Raiatea* are one and the same place. Should we refer to earlier history, the origin of the name *Rangiatea* can easily be traced. According to the ancient legends of our ancestors, *Rangi* married *Papatuanuku* with the result that they had several children . . . At the time they begat children, *Rangi* and *Papa* were still united, and when their children agreed that they should be separated, *Tane-Mahuta* was the one appointed to do this, and so *Tane* separated his parents. Hence we have *Papa-tuanuku* (the earth) and *Rangi* above (the sky) and thus the name *Rangiatea* originated. *Rangiatea* is also a sacred spot and the place from which *Turi,* the captain of the *Aotea* canoe, came during the great migration. The modern meaning of this proverb is the strength and the power and the ability of descendants of the ancestors from the *Aotea* canoe, and a free interpretation runs something like this: My prestige and my strength shall not fade nor be replaced, for such prestige and strength has been derived from my ancestors even from *Hawaiki (Wikirihi,* 1955: 41 - 42).

iv. The stage 3 *whakatāukī,* proverb of the study -

'Tungia te urarua, kia tupu whakaritorito te tupu o te harakeke',
'Burn the over-growth to enable the flax to bring forth new shoots'.

Further details:

There are various interpretations for this. As an example, the aim of everyone should be to burn or get rid of such things as quarrelling, anger and the like in order to accomplish whatever is aimed at. Goodness has never emanated from wrong-doing; therefore, whatever hinders any work of progress ought first to be got rid of. A fair interpretation of this is: burn or dispose of whatever hinders progress in all that is done, in order that what is desirable may indeed grow and bear fruit *(Ihaka,* 1957b: 42).

Stage 4 *whakatāukī* **continued**

v.   The stage 4 *whakatāukī,* **proverb of the study -**

'Toitu he kainga, whatu nga-rongaro he tangata',
'The land still remains when the people have disappeared'.

Further details:

> *'He kura tangata, e kore e rokohanga, he kura whenua, ka rokohanga',* 'A loved man will be overtaken; treasured land, never'. *'He kura kainga e hokia, he kura tangata e kore e hokia'.*

> 'A treasured home can be revisited; not so, a loved man'. These two proverbs, although in *Māori* they are worded differently, are similar in meaning. Another similar proverb is, 'Man disappears, but land still stands'. There are several proverbs in connection with the land. A landless person is regarded as an unworthy citizen. In all instances, the meaning of the proverbs is apparent. Man dies; the land lives! Land has caused most of the wars in this country and several *hakas* have been written which express disgust with any legislation concerning *Māori* lands which the *Māoris* themselves are not in agreement. According to another *Māori* belief, when land disappears, a person's *'mana'* (prestige) also disappears *(Ihaka, 1959: 55)*.

APPENDIX 1.1   THREE MAIN AREAS OF PROVISION UNDER THE *RESOURCE MANAGEMENT ACT 1991*

1. The *Māori* provisions:[1]

<u>i. Section 6.</u> Matters of national importance - In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

(e) The relationship of *Māori* and their culture and traditions with their ancestral lands, water, sites, *wāhi tapu* and other *taonga;*

<u>ii. Section 7.</u> Other matters - In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to:

(a) *Kaitiakitanga;* and

<u>iii. Section 8.</u> Treaty of *Waitangi* - In achieving the purpose of the *Resource Management Act,* all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of *Waitangi (Te Tiriti o Waitangi).*

2. The sustainable management provisions:

- Part II: Purposes and principles:

- Section 5. Purpose -

(1) The purpose of the Act is to promote the sustainable management of natural

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[1] Other *RMA 1991* provisions for *Māori* not considered by this research include:
   i. Section 33. Transfer of powers (1),
   ii. Section 34. Delegation of functions, etc., by local authorities (1),
   iii. Section 74. Matters to be considered by territorial authority (1), (2), (2b)ii,
   iv. Section 93. Notification of Applications (1), and
   v. First Schedule, 3. Consultation (1).

APPENDIX 1.1   continued

and physical resources.

(2) In this Act, 'sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural well being and for their health and safety while -

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects on the environment.

3. The environmental monitoring provisions:

i. Section 35. Duty to gather information, monitor, and keep records -

(1) Every local authority shall gather such information, and undertake or commission such research, as is necessary to carry out effectively its functions under this Act.

(2) Every local authority shall monitor -

(a) The state of the whole or any part of the environment of its region or district to the extent that it is appropriate to enable the local authority to effectively carry out its functions under this Act; and

(b) The suitability and effectiveness of any policy statement or plan for its region or district; and

(c) The exercise of any functions, powers, or duties delegated or transferred by it; and

(d) The exercise of the resource consents that have effect in its region or district, as the case may be - and take appropriate action (having regard to the methods available to it under this Act) where this is shown to be necessary.

APPENDIX 2.1   THE *MĀORI* VIEWPOINT OF *WAI,* WATER - BACKGROUND INFORMATION

By contrast, *Māori* water knowledge centres on the spiritual nature of water, within a much broader context involving social, secular and physical worlds (Barlow, 1991; Douglas, 1984; and Ministry for the Environment, 1998b, 1999b). *Māori* water knowledge stems from traditional myths and legends about this natural resource. From *Māori* mythology, water represents the lifeblood of *Papatuanuku* (the maternal personification of the earth) and the tears of *Ranginui* (paternal personification of the sky). Consequently, water is seen as an essential element to all aspects of life in the holistic framework of the *Māori* worldview: that being, *taha wairua* (spiritual significance), *taha hinengaro* (intellectual dimensions), *taha tinana* (physical dimensions) and *taha whānau* (the social aspect), (James, 1993; and Marsden et al., 1992).

Douglas (1984), illustrates the spiritual basis of the *Māori* classification system of water in five main areas as follows:

i. *Waiora:*   Purest form of water and relates to the spiritual and physical expression of *Ranginui* embracing *Papatuanuku.* Contains the source of life and well-being; and its contact with humans must be protected by appropriate ritual prayers;

ii. *Waimāori:* Water that has come into unprotected contact with humans. In contrast to waiora it is normal, usual or ordinary and no longer has any particular sacred association. This water is used for everyday purposes such as drinking;

iii. *Waitai:*   Used to describe the sea, the surf, or the tide. *Waitai* has another meaning, rough, angry or boisterous like the surf. The term *waitai* is used also to distinguish sea water from fresh water;

iv. *Waimate:* Water that has lost its mauri, life force. It is dead, damaged or polluted beyond its capacity to rejuvenate either itself or other living things. In contrast to *waikino* the mauri is totally lost; and

v.   *Waikino:*   Water that is spoiled or polluted and that contains large rocks or submerged snags. This water has the potential to be detrimental to life. Water which has been polluted, spoilt or corrupted. The *mauri* has been altered so that the supernatural forces are non-selective and can cause harm to anyone.

James (1993), summarises *Māori* concerns with water in three main areas:

i.   Recognition and provision for the cultural and spiritual relationship of *tangata whenua* with water bodies. This would include the exercise of *kaitiakitanga* and participation in the development of water management plans, water classifications and standards;

ii.   The degradation of water quality through various forms of pollution. *Tangata whenua* will seek to maintain, and even restore, the quality of waterways of significance to them. For example, water associated with *wāhi tapu,* food gathering areas and cultural resources (such as *pingao*); and

iii.   The mixing of waters from one river to another. The deliberate mixing of waters, which should be distinguished from the natural processes that occur in respect of tributaries, is unacceptable to *tangata whenua* and should be avoided. The mixing of waters is unacceptable because it involves the mixing of *mauri,* which may pollute the *wairua* (spirit) of those water bodies.[note]

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[Note] From Simon, K. H. (2000). <u>A Research Plan on the Denial and Acknowledgment of *Māori* Environmental Knowledge in Water Conservation and Use Policies,</u> (21 - 23). Hamilton, New Zealand: University of *Waikato.* Copyright 2000 by Simon, K.H. Adapted with permission.

APPENDIX 2.2   THE WESTPHALIA STATE SYSTEM AND NATION STATE - FURTHER DETAILS

1. Westphalia state system: main attributes -

i.   The world consists of, and is divided by, sovereign states that recognise no superior authority,

ii. The processes of law-making, the settlement of disputes and law enforcement are largely in the hands of individual states,

iii. International law is orientated to the establishment of minimal rules of coexistence; the creation of enduring relationships between states and people is an aim, but only to the extent that it allows national political objectives to be met,

iv. Responsibility for cross-border wrongful acts is a 'private matter' concerning only those affected,

v.   All states are regarded as equal before the law; legal rules do not take account for asymmetries of power,

vi. Differences among states are ultimately settled by force; the principle of effective power holds sway. Virtually no legal fetters exist to curb the resort to force; international legal standards afford minimal protection, and

vii. The minimisation of impediments to state freedom is the collective priority

Held (1995: 78); and Held et al (2000: 38).

2. Westphalia state system and sovereignty: main attributes -

i.   States are juridical equal,

ii. Each state enjoys the rights inherent in full sovereignty,

iii. Each state has the duty to respect the personality of other states,

iv. The territorial integrity and political independence of the state are inviolable,

v.   Each state has the right to freely choose and develop its political, social, economic, and cultural system, and

vi. Each state has the duty to comply fully and in good faith with its international obligations and to live in peace with other states.

Shaw (1997: 1152).

APPENDIX 3.1 *KAUPAPA MĀORI* RESEARCH - FURTHER DETAILS

i. Overall

In general, *Kaupapa Māori* research adopts a counter-hegemonic research approach in which *Māori* culturally defined parameters constitute the creation of knowledge. Overall, this involves the researcher's recognition and incorporation of *Māori* culture for the empowerment of *Māori* in the research process.

ii. Guiding Principles

The following six principles are at the heart of *Kaupapa Māori* research:

  i.   Accountability,

  ii.   Empowerment,

  iii. Personal/ *whānau* (family) responsibility,

  iv.   Informed consent,

  v.   Power sharing, and

  vi.   Sensitivity and respect.

These six principles are further elaborated by Bishop (1999, 2004) and Smith (1999) as follows:

According to Smith (1999) *Kaupapa Māori* research is:

  i.   related to 'being *Māori',*

  ii.   connected to *Māori* philosophy and principles,

  iii. takes for granted the validity and legitimacy of *Māori*, the importance of *Māori* language and culture, and

  iv.   connected with 'the struggle for autonomy over our own cultural well being', (Smith, 1999:7).

According to Bishop (1999, 2004) there are five key principles of *Māori* empowerment in *Kaupapa Māori* research as follows:

    i.   Initiation - Who initiated the research and why?

    ii.   Benefits - Who benefits? What difference will it make? How does this study support *Māori* cultural and language aspirations? Who decides on the methods and procedures of assessment and evaluation?

    iii.   Representation - Who will carry out the research? How do we want the research done?

    iv.   Legitimisation - How do we know it is a worthwhile piece of research? Who will own the research? What happens to the results?

    v.   Accountability - Who is the researcher accountable to? (Bishop, 2004: 6).[note]

_____

[Note] From Simon, K. H. (2000). <u>A Research Plan on the Denial and Acknowledgment of *Māori* Environmental Knowledge in Water Conservation and Use Policies,</u> (30 - 34). Hamilton, New Zealand: University of *Waikato*. Copyright 2000 by Simon, K. H. Adapted with permission.

The three [note1]
rivers [3]

APPENDICES 3.2 - 3.4
THE *MĀORI*
METHODS[2] OF THE
STUDY[note 2]

Note 2 From Simon, E. (2005). Esther Simon -
A Family History. Hamilton, New Zealand.
Copyright 2003 by Simon, E. Printed and
adapted with permission.

[2] I draw from photographs and text of my Mothers work titled 'Esther Simon - A Family History, 2005'. My sincere thanks and acknowledgement to Mum for providing this material for the thesis. Note 1 From Oulton, M. (2003). Contracted maps of the three rivers. Hamilton, University of *Waikato*. Copyright 2003 by Oulton, M. Adapted with permission.

[3] I introduce the *Māori* methods of the study through a photographic image of my *tipuna*, ancestor, *te ao tūroa,* the environment and *ngā awa,* rivers, to symbolize my spiritual vision of the three rivers *(Preface* and *Chapter 1).*

APPENDICES 3.2a,b,c   THE *WHAKAPAPA* MODEL OF THE STUDY[4]

My parents[note] - Robert and Esther Simon[5]
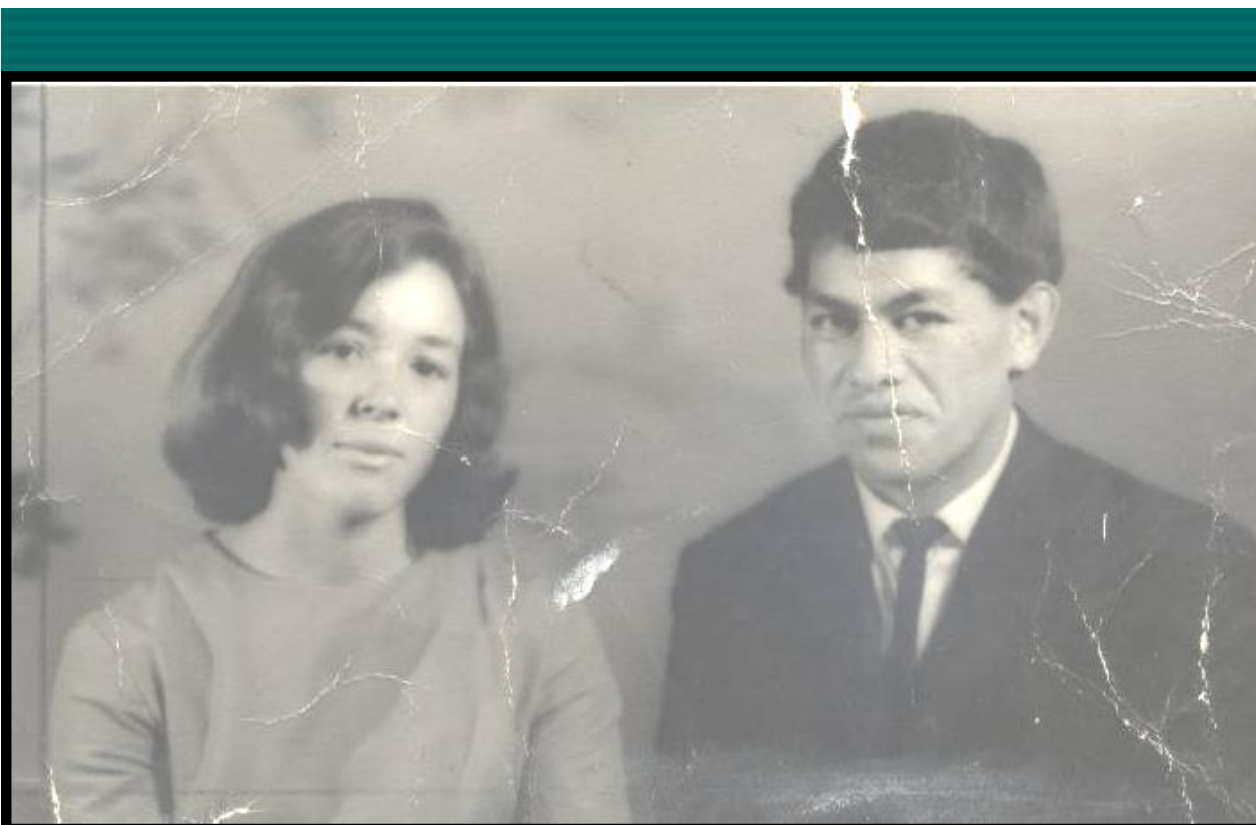
[5] Next, I introduce my parents (see the adjoining photograph), whom enabled the genealogical link to the three rivers of the study.

[6] In the words of my Mother: 'Our engagement photo. No photos were taken of our marriage which occurred on the 4th September 1965 at St. Peter's Roman Catholic Church, *Taupō*. Father Du Bree officiated. This photo is a metaphor of our life together . . . *He Tohu Aroha,* The Story of a marriage . . . I had been appointed to *Taupō* for my first year teaching a mate and I had run away from a party to go to a dance at *Taupō* Memorial Hall, she and I were dancing to a Beatle Tune when I felt a tap on my shoulder, I turned to see a pair of dancing brown eyes and a flashing smile, and that was it. I would love to say that we lived happily ever after, but ours was a tumultuous marriage. We never thought that when we started our life together that we would have to endure so much family dissension. Bob passed away at the age of fifty-five, after five years of dialysis treatment, for kidney failure - he was not diagnosed with diabetes until it was too late. As a Teacher of *Māori,* he had been controversial and the stresses of school life and community work had caused burnout. We were an obstinate pair, I learnt heaps from my mate, he was tough. We had five children and have seven *mokopuna'* (Simon, (E) 2005: 24).

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[4] The following appendices *(Appendices 3.2a,b,c)* pertain to the *whakapapa* model of the study. [Note] From Simon, E. (2005). <u>Esther Simon -A Family History.</u> Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

APPENDICES   3.2ai,ii,iii,iv   THE *WAITAHANUI* RIVER CASE STUDY *WHAKAPAPA*[7]

Appendix 3.2ai   My Dad[note] - Robert Casson *Te Hemopereki (Ngā Whakaaro)* Simon[8]

9
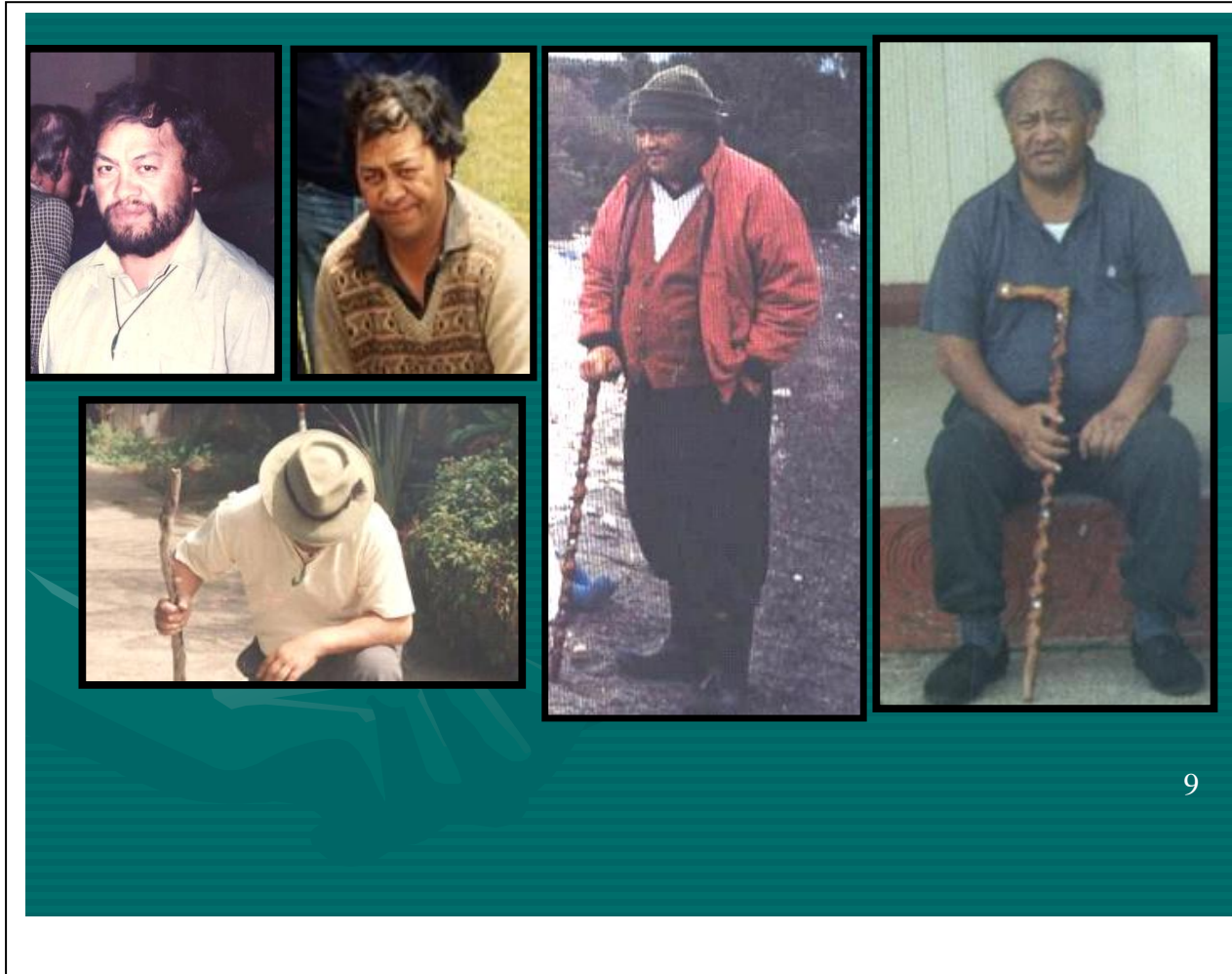
[7] The *Waitahanui* river case study *whakapapa* was enabled through my Dad - Robert Casson *Te Hemopereki (Ngā Whakaaro)* Simon (see the adjoining photographs).

[8] In the words of my Mother: 'Robert Simon worked as a recreation officer for a short time at *Porirua* Hospital, his main occupation was as a teacher of *Te Reo Māori.* He was a native speaker and also obtained his *Māori* Interpreter's Licence. He most enjoyed his role as a *kaumatua* on a number of *marae.* One may see from the photographs which were taken tens years apart the ravages of illness. Bob was staunch and stubborn, and it was only when he had to go to the doctor because he lost his sight whilst chopping down a tree that his health was investigated, too late. End stage Diabetes is a most unpleasant illness' (Simon, (E) 2005: 20, 25, 26).

[9] These photographs of my Dad were taken at various time points of his life apprenticeship, as *kaumātua,* leader and *Māori* teacher.

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Note   From Simon, E. (2005). <u>Esther Simon -A Family History.</u> Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Appendix 3.2aii   My kinship affiliation to the *Waitahanui* river case study - *mihi* and genealogy[note]

Part 1. *He mihi* (Greeting of my *Māori* identity)[10]

I te taha o tōku pāpā (On my Dad's side*):*

Ko Tauhara te maunga (Tauhara is the mountain),

Ko Taupō te moana (Taupō is the lake),

Ko Waitahanui te awa (Waitahanui is the river),

Ko Pakira te marae (Pakira is the *marae),*

Ko Ngāti Tutemohuta te hapu (Ngāti Tutemohuta is the sub-tribe),

Ko Ngāti Tuwharetoa te iwi (Ngāti Tuwharetoa is the tribe),

Ko Piripi Simon te koro (Piripi Simon is my grandfather),

Ko Katerina Simon te kuia (Katerina Simon is my grandmother),

Ko Robert Simon te pāpā (Robert Simon is my father).

Part 2. *He whakapapa* (Genealogy of my *Māori* identity)[11]
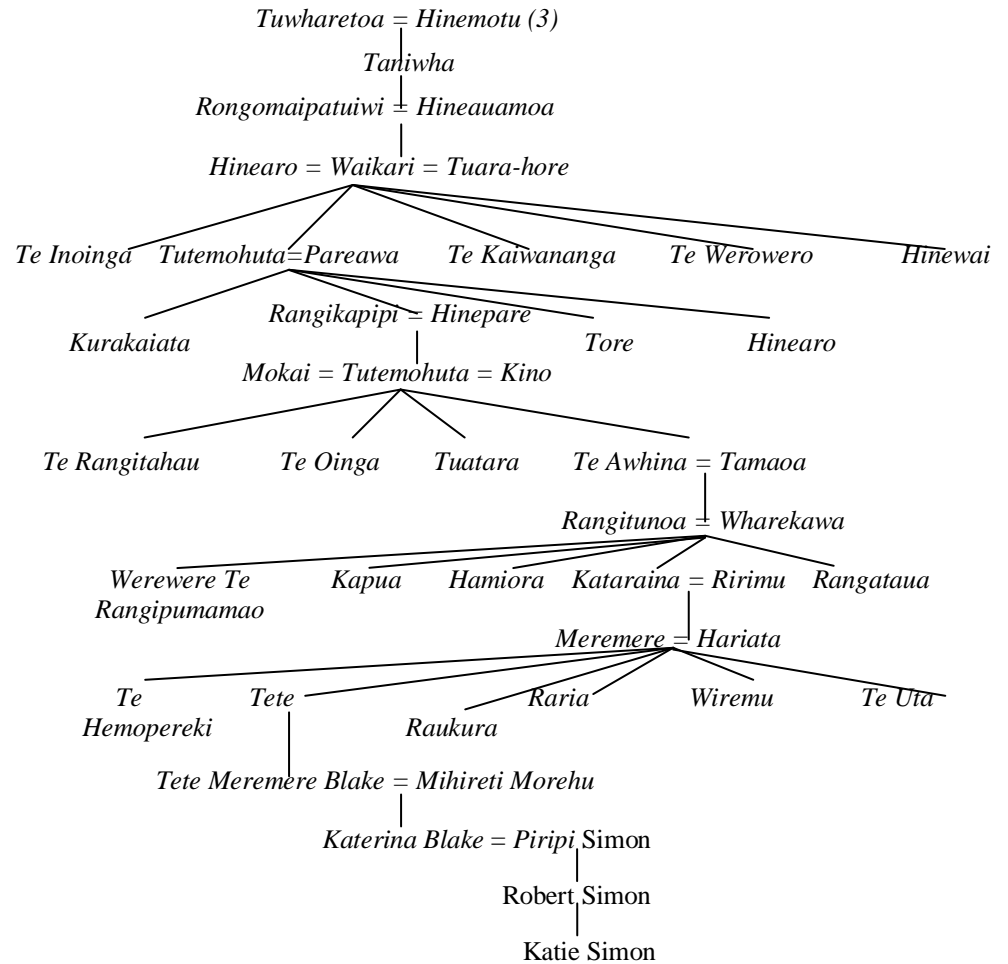
[10]   In *Part 1,* I recite a *mihi,* customary greeting *of Māori* identity, based on basic features of the *Māori* people-environment relationship in my kinship affiliation to the *Waitahanui* river community case study.

[11]   In *Part 2,* I present the web of family inter-connections in my genealogical links to the *Waitahanui* river community case study (Simon, 2000: 55 - 57).

Appendix 3.2aiii   My kinship affiliated *marae* of the *Waitahanui* river case study[note] - *Pakira*[12]

[12] Drawing on Simon E (2005), I present my kinship affiliated *marae* of the *Waitahanui* river case study - *Pakira* (see the adjoining photographs).

[13] In the words of my Mother: *'Pakira Marae, Waitahanui* (see the top photograph). For a short time Bob was *whangaid* by his Great auntie who lived behind *Pakira* beside the lake. This period had a great influence on his life. He was brought up in the old ways' (Simon, (E) 2005: 27).

[14] In the words of my Mother: 'This photograph (see the bottom photograph) was taken by some of our family after Bob's *tangi* at *Pakira'* (Simon, (E) 2005: 7)

Appendix 3.2aiv   My kinship affiliated river of the *Waitahanui* community case study - *Waitahanui* river[15]

[15] Drawing on Simon E (2005: 22), I present my kinship affiliated river of the *Waitahanui* community case study - *Waitahanui* river (see adjoining photograph from the 2003 river case study fieldwork).

[16] In this photograph of the *Waitahanui* river, trout fishing has a major role in the *Māori* people-environment relationship.

APPENDICES 3.2bi,ii,iii,iv   The *OPARAU* RIVER CASE STUDY[note] *WHAKAPAPA*[17]

Appendix 3.2bi   My Mum - Esther Helen Tooman Simon[18]

[17] The *Oparau* river case study *whakapapa* was enabled through my Mother - Esther Helen Tooman Simon (see adjoining photographs).

[18] Drawing on Simon E (2005: 15), I present my Mum - Esther Helen Tooman Simon; that being, as a toddler (see photograph on the left) and high school student (see photograph on the right).

[note] From Simon, E. (2005). <u>Esther Simon - A Family History</u>**.** Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Appendix 3.2bii   My kinship affiliation to the *Oparau* river case study - *mihi* and genealogy[note]

Part 1. *He mihi* (Greeting of my *Māori* identity)[19]

I te taha o tōku māmā (On my Mum's side):

Ko Pirongia te maunga (Pirongia is the mountain),

Ko Kāwhia te moana (Kāwhia is the sea),

Ko Oparau te awa (Oparau is the river),

Ko Waipapa te marae (Waipapa is the *marae),*

Ko Ngāti Hikairo te hapu (Ngāti Hikairo is the sub-tribe),

Ko Waikato te iwi (Waikato is the tribe),

Ko Rangihuia Tooman te kuia (Laura is my nanny),

Ko Hohepa Tooman te koro (Joseph is my grandfather)*,*

Ko Esther Simon te māmā (Esther is my mother).

Note From Simon, K. H (2000). A Research Plan on the Denial and Acknowledgment of *Māori* Environmental Knowledge in Water Conservation and Use Policies, (55 - 57). New Zealand: University of *Waikato*. Copyright 2000 by Simon, K.H. Printed and adapted with permission.

Part 2. *He whakapapa* (Genealogy of my *Māori* identity)[20]

Rangikopi (1) = Hikairo II = Pareranga (2)

Whakamarurangi = Te Rarangi

Kopa   Te Weu   Te Makaho   Te Hihi   Toataua   Te Au   Wiremu Te Akerautangi

Te Atakohu = Captain E Wright

Whakahua Rongoa = Ponui Pumipi

Kaaho Ponui = Charles Barton

Rangiahua = Joseph Tooman

Esther Simon
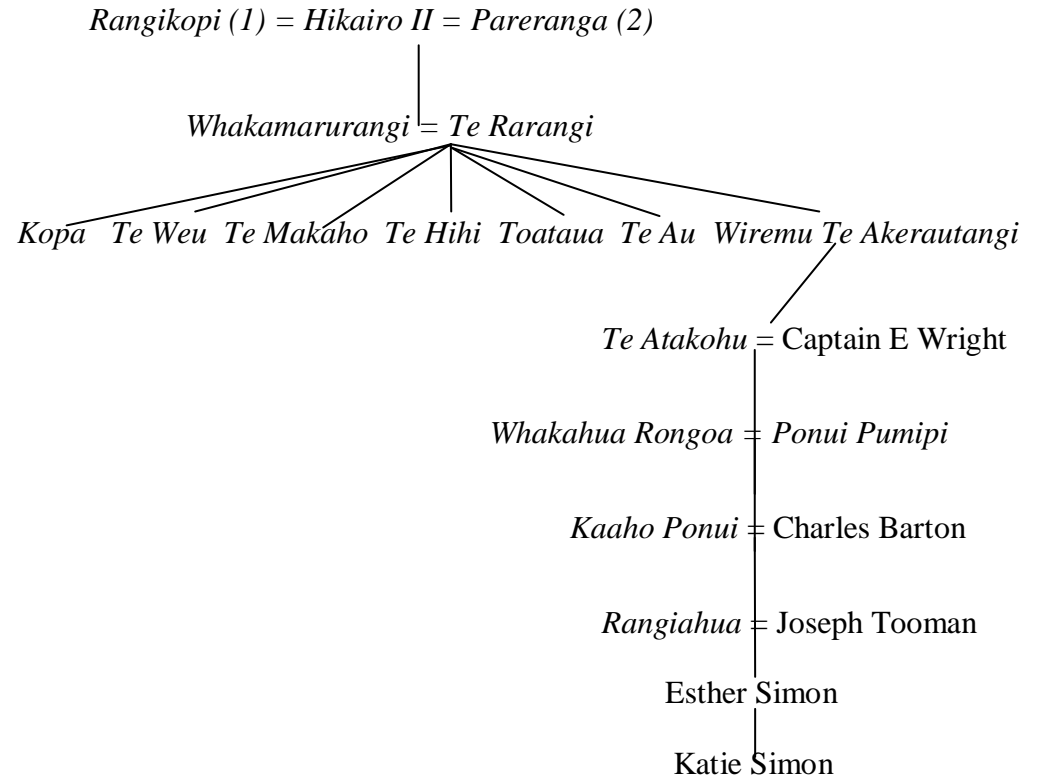
Katie Simon

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[19] In *Part 1,* I recite a *mihi,* customary greeting of *Māori* identity, based on basic features of the *Māori* people-environment relationship in my kinship affiliation to the *Oparau* river community case study.

[20] In *Part 2,* I present the web of family interconnections in my genealogical links to the *Oparau* river community case study (Simon, 2005: 55 - 57).

Appendix 3.2biii   My kinship affiliated *marae* of the *Oparau* river case study - *Waipapa*[21]

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[21]   These photographs were taken during visit 1 of the *Oparau* river case study fieldwork, 2003.
[22]   My *marae's* kitchen/dinning hall (at the rear) and *whare wananga,* house of learning - *Takuhiahia* (in the front) are the main features of the photograph on the left.
[23]   My *marae's* meeting house - *Ngataewhakarongorua* is the main feature of the photograph on the right.

Appendix 3.2biv   My kinship affiliated river of the *Oparau* community case study - *Oparau* river[24]

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[24] The above photographs of the *Oparau* river were taken during visit 3 of the *Oparau* river community case study fieldwork, 2003.
[25] In this photograph of the *Oparau* river, farming has a major role in the *Māori* people-environment relationship (see photograph on the left).
[26] In this photograph of the *Oparau* river, fishing has a major role in the *Māori* people-environment relationship (see photograph on the right).

APPENDICES 3.2ci,ii,iii   THE *HARATAUNGA* RIVER CASE STUDY *WHAKAPAPA*[27]
Appendix 3.2ci   My kinship affiliation to the *Harataunga* river case study - *mihi*[note1] and genealogy[note2]

Part 1. *He mihi* (Greeting of my *Māori* identity)[28]

I te taha o tōku māmā (On my Mum's side):

Ko Rakairoa te marae (Rakairoa is the *marae),*

Ko Ngāti Porou ki Harataunga ki Matāora te hapu

(Ngāti Porou ki Harataunga ki Matāora is the sub-

tribe),

Ko Ngāti Porou te iwi (Ngāti Porou is the tribe),

Ko Erana Kawa Ngapo te kuia (Erana is my nanny),

Ko Joseph Tooman te koro (Joseph is my grandfather),

Ko Esther Simon te māmā (Esther is my mother).
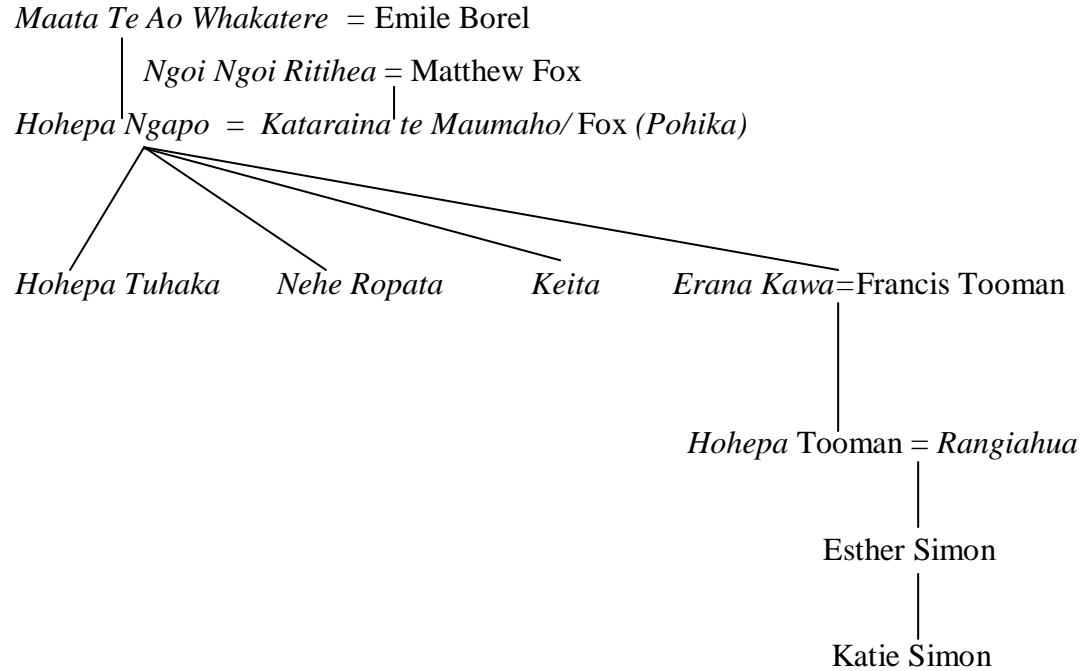
Note 1 From Simon, E. (2005). Esther Simon - A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Adapted with permission.

Note 2 From Simon, K. H (2000). A Research Plan on the Denial and Acknowledgment of *Māori* Environmental Knowledge in Water Conservation and Use Policies, (55 - 57). New Zealand: University of *Waikato.* Copyright 2000 by Simon, K.H. Printed and adapted with permission.

Part 2. *He whakapapa* (Genealogy of my *Māori* identity)[29]

Maata Te Ao Whakatere = Emile Borel

Ngoi Ngoi Ritihea = Matthew Fox

Hohepa Ngapo = Kataraina te Maumaho/ Fox *(Pohika)*

Hohepa Tuhaka   *Nehe Ropata*   *Keita*   *Erana Kawa*=Francis Tooman

Hohepa Tooman = *Rangiahua*

Esther Simon

Katie Simon

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[27]   The *Harataunga* river case study *whakapapa* was also enabled through my Mum - Esther Helen Tooman Simon.

[28]   In *Part 1,* I recite a *mihi,* customary greeting of *Māori* identity, based on basic features of the *Māori* people-environment relationship in my kinship affiliation to the *Harataunga* river community case study

[29]   In *Part 2,* I present the web of family interconnections in my genealogical links to the *Harataunga river* case study (Simon, 2000: 55 - 57).

Appendix 3.2cii   My kinship affiliated *marae* of the *Harataunga* river case study - *Rakairoa*[30]

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[30] The above photographs of *Rakairoa marae* were taken during my only visit to Kennedy Bay, before the *Harataunga* river community case study fieldwork.

[31] My son *Te Kawa* (named after his *Harataunga* affiliated *tipuna - Erana Kawa Ngapo)* sits beneath ancestral carvings on the inside of the meeting house in this photograph (see photograph on the left).

[32] *Te Kawa* and his Uncle Edward (the main living *kaitiaki* of the *Oparau* river community case study) stand on the outside of the meeting house in this photograph (see photograph on the right).

Appendix 3.2ciii   My kinship affiliated river of the *Harataunga* community case study - *Harataunga* river[33]

34

35
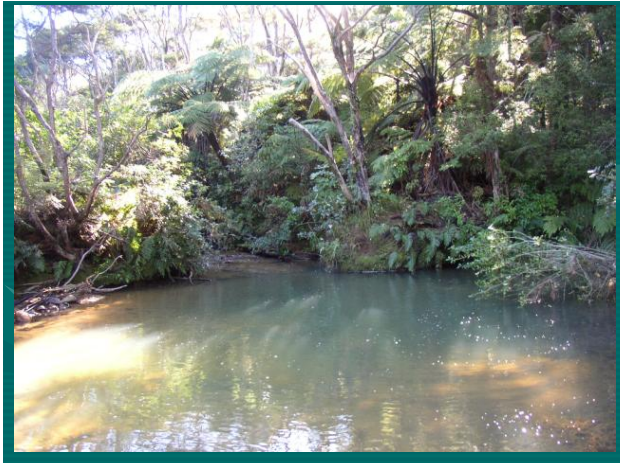
36

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[33] The above photographs of the *Harataunga* river were taken during visit 4 of the *Harataunga* river community case study fieldwork, 2003.

[34] In this photograph of the *Harataunga* river, transport has a major role in the *Māori* people-environment relationship (see photograph on the left).

[35-36] In these photographs of the *Harataunga* river, swimming and fishing have a major role in the *Māori* people-environment relationship (see photographs in the middle and on the right).

APPENDICES 3.3ab   THE *WAIRUA* MODEL OF THE STUDY[37]
Appendix 3.3a   Schema of the main levels of *te taha wairua* in the study[38]

Te taha wairua levels of te ao Māori

scale of spirituality   *attribute of spirituality*   *level of spirituality*

highest   *Io,* supreme *Māori* god   level 1

^
^ --

Ngā atua o te ao turoa, Māori environmental gods

^

Rangi, sky father   *Papa,* earth mother >>>>> parent gods

^
^

Tanemahuta[39] — *Tangaroa*[40] — *Tawhirimatea*[41] — *Rongomatane*[42]

^

Haumiatiketike[43] — *Tumatauenga*[44] >>>>>> children gods   level 2

^
^ --

Ngā tupuna o ngā waka, migration ancestors

^

Tainui   *Te Arawa*   *Horouta* >>>> my affiliated *waka,* canoes   level 3

^ --

Ngā tupuna o ngā iwi>>>>>ancestors of affiliated tribes

Waikato   *Ngāti Tuwharetoa*   *Ngāti Porou*   level 4

^ --
^

Ngā tupuna o ngā hapu>>>>ancestors of affiliated sub-tribes

Ngāti Hikairo   *Ngāti Tutemohuta*
Ngāti Porou ki Harataunga   level 5

^ --
^

Ngā wairua kaitiaki o ngā awa, my river spiritual guardians

^

Harataunga   *Waitahanui*   *Oparau*   level 6

---

[37] The following Appendices (*Appendices 3.3ab)* put forward the *wairua* model of the study.
[38] I first identify how *Māori* spirituality was applied at six main levels of *te taha wairua.*
[39] Referring to the *Māori* demi-god of forests.
[40] Referring to the *Māori* demi-god of water (ocean, river and sea).
[41] Referring to the *Māori* demi-god of air (atmosphere and winds).
[42] Referring to the *Māori* demi-god of cultivated food.
[43] Referring to the *Māori* demi-god of non-cultivated food.
[44] Referring to the *Māori* demi-god of war and humanity.

Appendices 3.3bi,ii,iii *Ngā wairua kaitiaki o ngā awa,* **the river spiritual guardians of the study - background information**[45]
Appendix 3.3bi *Ngā wairua kaitiaki* **and the** *Waitahanui* **community case study - further details**

Part 1. *Te Urupā o Waitahanui* (Burial place)[46]

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[45] The following appendices *(Appendices 3.3bi,ii,iii)* provide background information on *ngā wairua kaitiaki o ngā awa*, the river spiritual guardians of the study.

[46] The above photographs of the *Waitahanui urupā,* cemetery, were taken during visit 4 of the *Waitahanui* river community case study fieldwork. My father's burial stone (bottom middle photograph) is located among the rest of his *whānau* (as displayed in the top row of photographs and the photographs on the left and right of the bottom row).

Part 2. *Ngā tupuna o Waitahanui*[note] **- My great grandparents**[47]

[47] Drawing on Simon E (2005), I present my paternal great grandparents - *Tete Meremere* (left photograph) and *Mihireti* Blake (right photograph). In the words of my Mother 'Bob named our second son after his grandfather *Tete Meremere*' (Simon, (E) 2005: 6).

[Note] From Simon, E. (2005). Esther Simon - A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 3. *Ngā tupuna o Waitahanui*[note] - **My grandparents**[48]

[48] Drawing from Simon E (2005), I present my paternal grandparents - Kate and *Piripi* Simon of *Waitahanui, Taupō.* In the words of my Mother: 'My husband's beautiful, hardworking parents. My father-in-law comes from *Murupara* and is *Ngāti Manawa,* he married into *Ngāti Tuwharetoa* and lived with his wife's people on the shores of Lake *Taupō.* They had a big family, many sons and two daughters. The sons attended *Hato Paora* College and the daughters St. Josephs. *Waitahanui* is a *Ratana* stronghold. Bob is the seventh son' (Simon, (E) 2005: 19).

My paternal grandfather *Piripi Haimona* was born in *Murupara.* He is *Ngāti Manawa* and *Ngāti Tahu. Ngāti Tahu* occupies *Reperoa* and are the *kaitiaki* of the mouth of the *Waikato* River.

Note From Simon, E. (2005). <u>Esther Simon -A Family History.</u> Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Appendix 3.3bii   *Ngā wairua kaitiaki* and the *Oparau* community case study - further details[note]

Part 1. My most senior female ancestor, *tipuna*[note] - *Te Atakohu*[49]
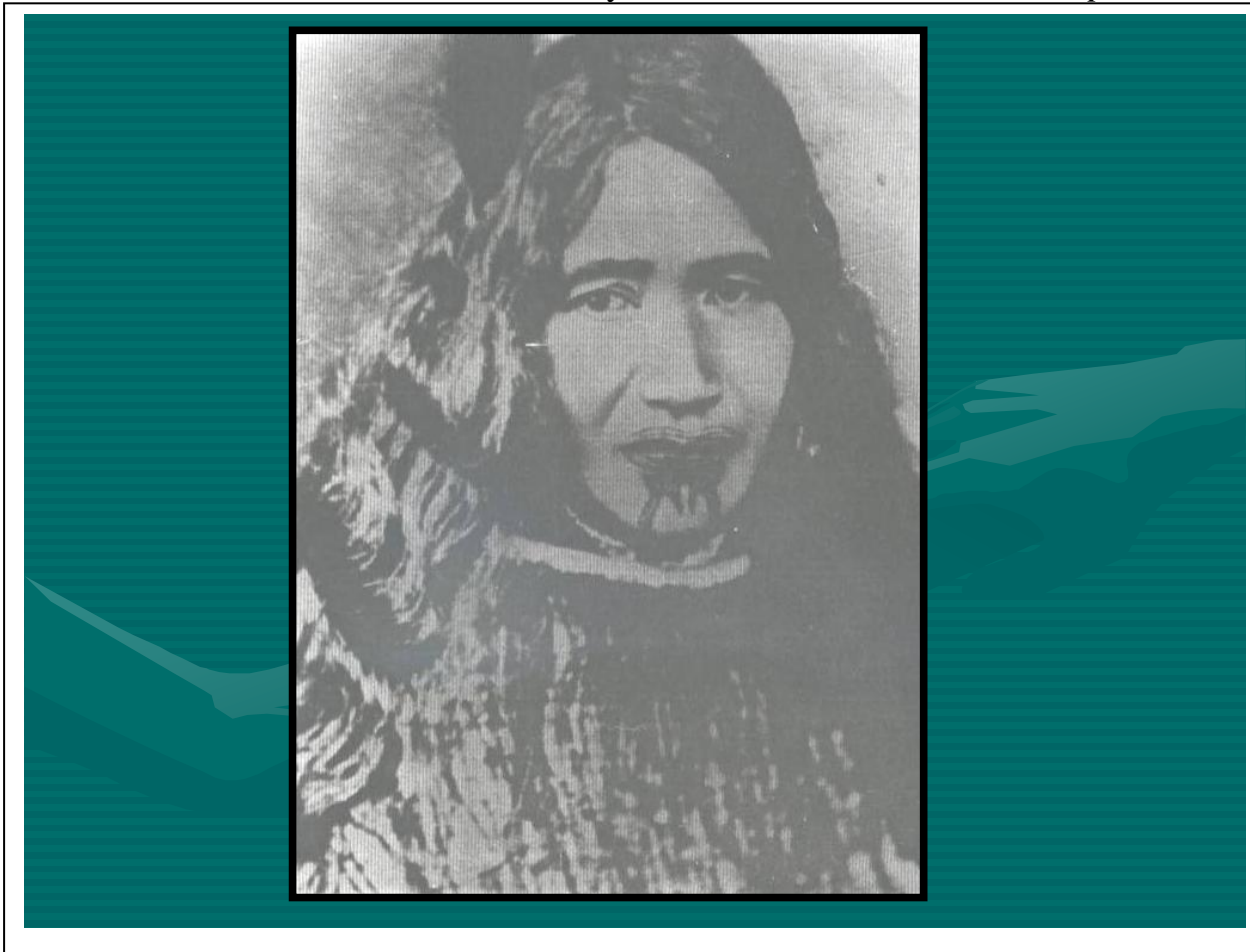
[49] Drawing on Simon, E (2005), I present my most senior female ancestor - *Te Atakohu* (see adjoining photograph). In the words of my Mother:

'Ngāti Horotakere, Ngāti Puhiawe Whakapapa
Whakumarurangi - Rarangi
Te Akerautangi - Takepititi
TE ATAKOHU - Eugene Wright
Rongoa Whakaahua - Te Aorere Ponui Pumipi
Ngarehu Kirimangu Kaaho - Charles Francis Eyles Barton
Laura *Rangihuia* Barton - Joseph Tooman
Esther Helen *Heramere* Tooman - Robert Casson Simon
Robert
Katerina, Erin, *Haki,* Luke
Victoria, Nathan
Edward, *Kahureremoana*
Rangihuia, Sapere, *He Mari*

Te Atakoku was the eldest child and only daughter of *Wiremu Te Akerautangi* and *Takepititi.* She was given in marriage to her first husband, Eugene Wright, a French sea captain, they had two children, *Wi Matete* who had no issue and *Rongoa Whakahua Tirotiro.* When the King Country was established Eugene and all *Pākehā* were banished from *Kāwhia* and *Te Atakohu* was given in marriage to *Hone Wetere,* they had one son *Taui Wetere* who had 21 children. Like her father *Te Atakohu* was a *Tohunga,* this gift caused her great sorrow as she could see what the future held for her people. She grieved for the loss of the old *Māori'* (Simon, (E), 2005: 6).

Part 2. My maternal great, great grandmother[note] - ***Tirotiro***[50]

[50] Drawing on Simon E (2005), I present my great, great, great grandmother - *Tirotiro* (top left photograph) and children (top right photograph and bottom photograph). In the words of my Mother *'Rongoa Whakahua Ponui*. Usually known as *Tirotiro*. My maternal great grandmother, wife of *Te Aorere Ponui Pumipi* and their children Renee (bottom photo on the right) *Haki Tara* (top right photo), *Tame* (bottom photograph on the left) *and Kaaho* *(*bottom photograph in the middle). *Tirotiro* had another son, Wattie whose father was a *Pākehā* surveyor George Barclay. Wattie was taken away and brought up on the East Coast. *Tirotiro* and her family lived on *Rangiahua, Kāwhia.* Uncle *Haki* is digging for *pipi* in the *pipi* beds in *Kāwhia* Harbour. *Tame Ponui,* was a member of the *Māori* Pioneers and fought in World War 1, he later became a Methodist Minister and worked for the *Kingitanga. Renee,* the eldest child was domesticated and lived all his life on *Rangiaahua.* He looked after his mother. Their father *Ponui Pumipi* was killed by a bullock train when his family were young. *Haki* married his first cousin Sara *Moke,* only a few of their 21 children survived. *Ngarehu Kirimangu Ponui* also known as *Kaaho.* The baby of the family' (Simon, (E) 2005: 9).

Note From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 3: My maternal great grandmother[note] - *Kaaho*[51]

[51] Drawing on Simon E (2005), I present my maternal great grandmother - *Kaaho* (photo on the left and in the middle of the photo on the right). In the words of my Mother: *'Ngarehu Kirimangu Ponui* Barton, *Ngāti Apakura, Ngati Horotakere* and *Ngāti Hikairo* of *Pirongia* and *Kāwhia. Kaaho* married Charles Barton who was the County Clerk of *Kāwhia* when it was a thriving port. They often travelled to *Mangere* Auckland by boat, it was quicker than travelling to Hamilton which took two days and involved a boat ride to *Oparau* when the tide was in, an overnight stay, then a coach ride over *Pirongia* thence to Hamilton. My grandmother's pet name was *Kaaho*. She was not fond of this name, she said it was a boy's name. Nanny said that she had a lovely childhood, she played with her cousins, swam and rode horses, she and her cousin *Rangi* Quinn would jump from the *Pohutukwa* into the sea. Nanny had a strict upbringing, she was also very spoilt, she must have been a bit of a handful' (Simon, (E) 2005: 10).

[Note] From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 4. My maternal great grandparents[note] - **Mr and Mrs Charlie Barton and children**[52]

[52] Drawing on Simon E (2005), I present my maternal great grandparents (photograph on the left) and children (photograph on the right). In the words of my Mother: 'A Day at the Races. My grandmother loved her races and always left her family to go on the *Poukai* Round, she also enjoyed her games of Poker, she would come home when her money ran out. Nanny was gregarious and loved the social scene, Grandpa was quiet, and loved reading. They produced four daughters, Wally their son arrived after a gap of fourteen years. Charles Walter Cyril Barton stands behind his sisters, Laura *Rangihuia* Tooman (the eldest child), Esther *Kirianu* Graham (the fourth daughter and my Godmother) she was Matron Graham at *Tokanui* Hospital and had three sons, Ricky, Bruce, and Colin. *Mere* Ohio Holloway, (the third daughter) had one daughter Jan and Nancy *Rehumoana* Danks (the second daughter) had one daughter named Robina. Aunty Nancy was very clever, she was statuesque and rather haughty, she worked very hard all of her life. Wally left school and ran away to sea, later he became a psychiatric nurse, he has eight children. The girls spent their childhood in *Kāwhia,* during the Depression years. Mum was the cook and seamstress, Aunty Nancy milked the family cow, Aunty *Mere* did the house work, Aunty Esther was a Tomboy and when she finished her chores, would escape with her dog and horse. Later the family moved to *Tirau* where Uncle Wally was born, they then moved to Hamilton where Grandpa was the County Clerk' (Simon (E), 2005: 11).

———————————————

Note
From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 5. My maternal grandparents[note] - **Joseph and Laura Tooman**[53]

54

55

56

[53] Drawing on Simon E(2005), I present my maternal grandparents - Joseph and Laura Tooman (see adjoining photograph).

[54] In the words of my Mother: 'Mum and Dad on their wedding day at 14 *Tamihana* Ave (see photograph on the left). They were married at St. Peter's Cathedral on 2nd October 1943. My father was a returned soldier, he was an Engine Driver by occupation. Before her marriage my mother was a psychiatric nurse' (Simon, (E), 2005: 14).

[55] In the words of my Mother: 'My beautiful mother, Laura *Rangihuia* Tooman (see top row photograph on the right), widowed after fourteen years of marriage' (Simon (E), 2005: 14).

[56] In the words of my Mother: 'Me, Mum, my brothers Harry, Raymond, George and our Dad' (see bottom row photograph on the right) (Simon, (E) 2005: 14).

Note   From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 6. Tooman family gatherings[note] - *whakawhānaungātanga*[57]

58

59

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61

[57] Drawing on Simon E(2005), I present the Tooman family gatherings or *whakawhānungātanga* that preceded my grandfathers passing (see adjoining photographs).

[58] In the words of my Mother: 'The family are keen supporters of the *Waikato* Rugby Team' (see top row photograph on the left).

[59] In the words of my Mother: 'Another family gathering at 28 Bond Street (see top row photograph on the right).

[60] In the words of my Mother: 'Dad and uncles with sore heads after celebrating another *Waikato* victory' (see bottom row photograph on the left).

[61] In the words of my Mother: 'A family visit to Uncle Frank's place, *Te Mata'* (see bottom row photograph on the right) (Simon, (E) 2005: 16).

―――――――――

[Note] From Simon, E. (2005). Esther Simon - A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Appendices 3.3bii   *Ngā wairua kaitiaki* and the *Harataunga* community case study[note]
Part 1. My Mother's father Joseph and his sister Kataraina[62]
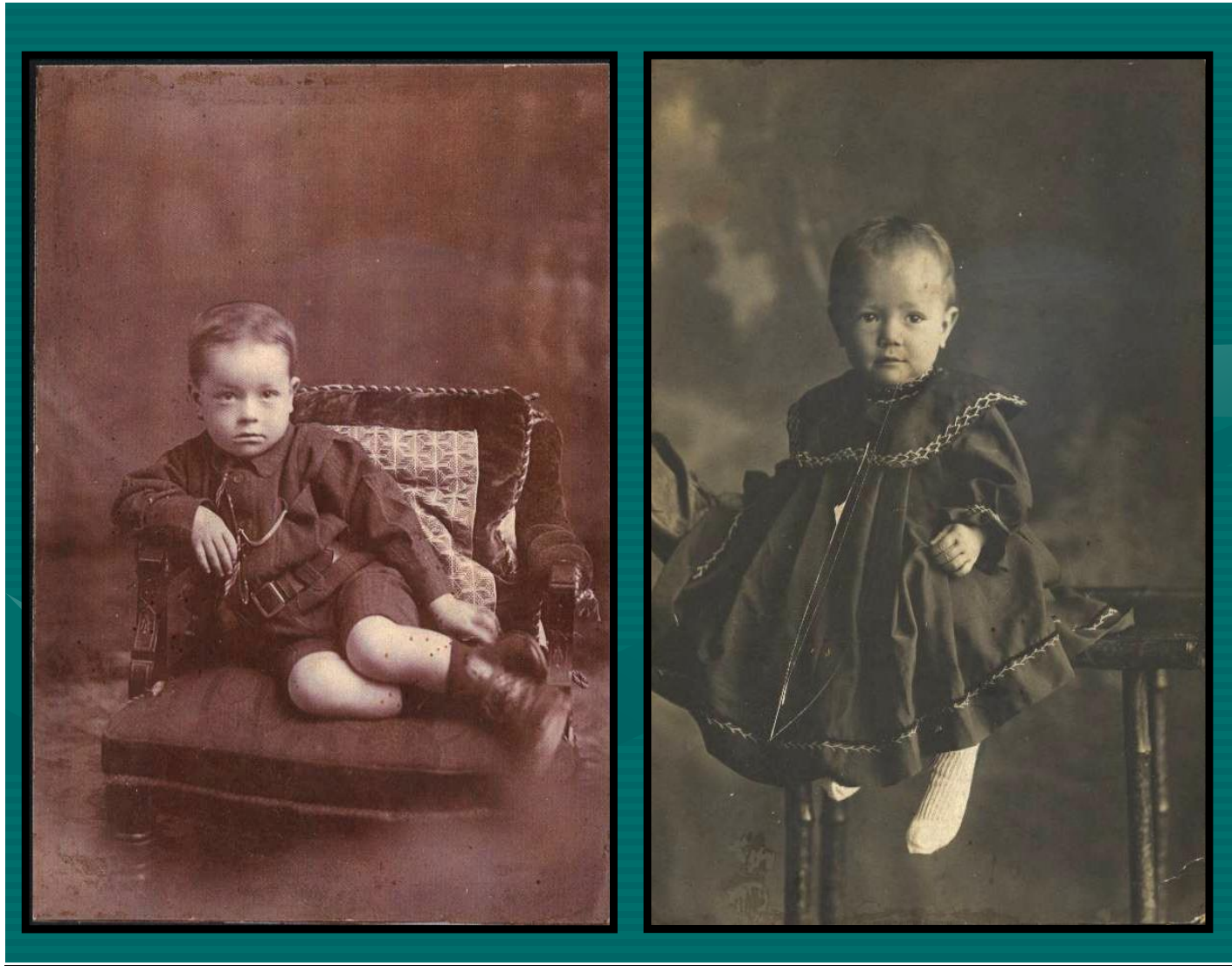
[62] Drawing on Simon E (2005: 3), I present my Mothers father Joseph (see photograph on the left) and his sister *Kataraina* (see photograph on the right) Tooman of *Harataunga* and *Matāora*.

_____

[Note] From Simon, E. (2005). <u>Esther Simon - A Family History.</u> Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 2. My Mother's paternal great grandmother[note] - *Kataraina Pohika*[63]

64

[63] Drawing on Simon E(2005), I present my Mum's paternal great grandmother - *Kataraina Pohika,* and family (see the adjoining photograph).

[64] In the words of my Mother: '*Kataraina Pohika* sits in the middle of the photo. She is the third daughter of *Ritihia Te Riunui* of *Ngāti Porou* and Matthew Fox. Behind her stands her third husband *Hohepa Pio Ngapo* son of Emile Borell and *Maata Te Aowhakatere* of *Ngāti Porou* and *Ngāti Awa*. To her left sits her son *Tuhaka Ngapo,* seated in the front is her youngest daughter Kate, beside her sits her sister who married *Hohepa's* brother. Three sisters married three brothers and they all dwelt in Kennedy Bay. These marriages were arranged by *Katerina's* uncle *Ropata Wahawaha,* so that they would retain the *Ngāti Porou* link to the Coromandel and *Matāora* bay (Simon, (E)2005: 2).

[Note] From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 3. My Mother's paternal grandparents[note] - **Francis Tooman and *Erana Kawa Ngapo*[65]**

[65] Drawing on Simon E(2005), I present my Mum's paternal grandparents - Francis Tooman and *Erana Kawa Ngapo*. In the words of my Mother: 'My dad, in his Hamilton East school football jersey sits on the mat (see second photograph from the left) in front of his father Francis Tooman (see first photograph from the left). My grandfather was a school teacher, he taught at Kennedy Bay where he fell in love with my grandmother *Erana Kawa Ngapo*. Here is a photograph of my grandma in her first communion dress (see second photograph from the right), the other photograph shows her as a young married lady at *Whakarewarewa* (see first photograph from the right). Grandma Tooman was an East Coast Anglican and Grandpa was an Irish Catholic. They had a large and very loving family, my dad and his siblings deeply loved their Mother's home of Kennedy Bay' (Simon, (E) 2005: 4).

[Note] From Simon, E. (2005). <u>Esther Simon -A Family History.</u> Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 4. My Mother's great auntie[note] - *Keita Te Ngaro Ngapo*[66]

[66] Drawing on Simon E(2005), I present my Mum's great auntie - *Keita Te Ngaro Ngapo* (see adjoining photographs). In the words of my Mother: 'My great auntie Kate (see photograph on the left and left side of the photograph on the right) was educated at Queen Victoria College, she then trained as a Nurse at *Waikato* Hospital. She worked as a nurse in the *Māori* communities of *Mokai, Taupō* and Coromandel. When my grandmother died in childbirth, Auntie Kate returned home to Kennedy Bay, she brought up my Aunty Helen (Dolly) and the two sons of her brother *Tuhaka Ngapo* whose wife had also died young. *Tuhaka's* daughter Nursie was brought up in *Waipiro* Bay, by relatives' (Simon, (E) 2005: 5).

Note From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 5. My grandfather[note] - **Joe Tooman**[67]

[67] Drawing on Simon E. (2005), I present my grandfather - Joe Tooman (see middle person of the adjoining photograph) and family.

[68] In the words of my Mother: 'Charlotte (from the left of the adjoining photograph), Bob, Kitty, Joe, Mary, Frank, Bub/ Dolly - Aunty Helen was in *Manatuke* with her family (Simon (E), 2005: 6).

_____

[Note]. From Simon, E. (2005). Esther Simon - A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

APPENDICES 3.4a,b THE *WHĀNAU* MODEL OF THE STUDY[69]

Appendix 3.4a   Apprenticeshiping - further details[70]

PART A
apprenticeship
level

time frame

past   present   future

multiple apprenticeships

level one

ngā wairua kaitiaki o ngā awa

----

level two

living *kaitiaki*

PART B
level three
sub-level three 1

individual/life apprenticeship

kinship affiliated *Māori* researcher

----

sub-level three 2

fieldwork apprenticeship

phase one - preparation fieldwork

step 1 ⟶ step 2 ⟶ step 3 ⟶ step 4

step 1	step 2	step 3	step 4
parent consultation	*kaumatua/ kuia* consultation*/hui*	key *whānau kaitiaki* consult*/hui*	other *whānau* consult*/hui*

phase two - fieldwork proper

step 1 ⟶ step 2 ⟶ step 3 ⟶ step 4

step 1	step 2	step 3	step 4
key *whānau kaitiaki:* establish support base & advice	liaise/ network via key *whānau kaitiaki*	conduct interviews via established	report/ feedback key *whānau kaitiaki* & community

phase three - ongoing contact/ future

step 1 ⟶ step 2 ⟶ step 3 ⟶ step 4

step 1	step 2	step 3	step 4
submit research findings report	visit 1-3x write up period	submit river chapters	ongoing visits/ reciprocation

---

[69] The following Appendices *(Appendices 3.4a,b)* put forward the *whānau* model of the study.

[70] The apprenticeshiping of the study is schematically framed between the multiple (Part A) apprenticeships (referring to the apprenticeshiping of *ngā wairua kaitiaki o ngā awa* and the living *kaitiaki)* and my own (Part B) apprenticeship (referring to both my life/individual apprenticeship in apprenticeshiping sub-level three 1 and the fieldwork apprenticeship in apprenticeshiping sub-level three 2 of the study).

Appendix 3.4b   Experiential reflexivity, apprenticeshiping and *whānau* - background information[71]

Part 1. Experiences of *whānau* [note] - **Family holidays at *Kāwhia***

[72] Drawing on Simon E (2005), I present my own experiences of *whānau*, regarding family holidays at *Kāwhia* (see adjoining photographs).

[73] In the words of my Mum: 'Happy family holiday memories of *Kāwhia*' (Simon, (E) 2005: 34).

_____

[Note] From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

_____

[71] Drawing on Simon (E) 2005, I present background information on experiential reflexivity and apprenticeshiping in relation to the adaptive strategies of *whānau (Chapter 3)* in the study.

Part 2. Experiential reflexivity[note] - *Whānau* **and Dad's passing**[74]

[74] Drawing on Simon E (2005), I present my own experiences of *whānau,* after Dad's passing (see adjoining photographs).

[75] In the words of my Mum: 'Our first Christmas after Bob's death' (Simon, (E) 2005: 28).

_____

[Note] From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

Part 3. Apprenticeshiping and *whānau*[note] - **My Uncle George Tooman of *Kāwhia*[76]**

77

[76] Drawing on Simon E (2005), I present my own experiences of *whānau* and apprenticeshiping, regarding the life apprenticeship of my Uncle George Tooman of *Kāwhia* (see adjoining photograph).

[77] In the words of my Mum: 'What are you thinking about brother George?" My youngest brother gazes towards the bar at *Aotea* Harbour. My favourite brother led a full life, he was a carver and a local character in the *Kāwhia* Community. He lost his life on a beautiful sunny Summer's afternoon, in a tractor accident, at the age of 49. He loved life, music, women, his children, and alcohol, until it became his master. He told me that he dreaded the phantoms that had come to haunt him. I believe Mum and Dad came to get him. Rest in peace brother dear (Simon, (E) 2005: 35).

Note From Simon, E. (2005). Esther Simon -A Family History. Hamilton, New Zealand. Copyright 2003 by Simon, E. Printed and adapted with permission.

**APPENDICES 3.5a,b,c,d,e,f,g,h,i,j,k,l,m,n,o,p,q
THE METHODS OF THE STUDY - BACKGROUND
INFORMATION**

Appendix 3.5a   Ethics - further details

Ethical Review Application/ 2003[78]
Katie Simon, PhD candidate, IGCI
khs1@waikato.ac.nz
Ph: 8384466, ext 7633
Mobile: 029 1204020

Contents:

A. Application form

B. Attachments:

B1: Research proposal & plan

B2: Selection & recruitment of *Māori* participants

B3: Selection & recruitment of non-*Māori* participants

B4: Information sheet - *Māori* community case study
         research interviews

B5: Information sheet - Environmental hierarchy research
         interviews

B6: Research participant consent form

B7: Set of points guide - *Māori* community case study
         research interviews

B8: Set of points guide - Environmental hierarchy research
         interviews

Submitted April, 2003 **-** nb: Adapted from 2002 School of *Māori* and
Pacific Development Ethical Review application form

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[78]   To start, I introduce my ethical review application form of the research; that being, at the
      final stage of submission.

A. Application form

Part One -

1. Synopsis of Project:
(6 month research proposal
& thesis plan enclosed)
General outline:
i. Brief overview
I am doing a comparative study of *Māori* and scientific conservation and use values in environmental management and governance regimes under the *Resource Management Act 1991.*

ii. Thesis statement
Māori conservation and use values are not adequately and appropriately reflected in the formation and implementation of environmental performance indicators that inform resource management, policy and law.

iii. Research questions
- What *Māori* and scientific conservation and use values are relevant to Regional and District Council river water policy and law?
- Are such values evident in resource management science, law, policy and practice?

iv. Research Methods
There will be two main types of research methodology as follows:

Library research: Content analysis of official discourse on environmental policy, plans and supporting documentation to analyse the balance of *Māori* and scientific conservation and use values.

Empirical research involving human participants:

The empirical component of the research involves *Māori* and non-*Māori* participants. A key aspect is that it is cross-cultural research and requires different ethical and methodological considerations for each group of participants.

- Focus group/ key informant interviews of will be conducted with:

a) Environmental indicator staff (in National, Regional and District government bodies) about values informing river water indicator formulation,

b) Regional and district council policy makers about the formulation of *Māori* and scientific conservation and use values and the values informing water policy decision making,

c) *Iwi* liaison officers about the formulation and relevance of *Māori* values,

d) Scientists about the formulation and relevance of scientific river indicators and values, and

e) Identified *tangata whenua* leaders about the formulation and relevance of *Māori* values about rivers.

- Focus group/key informant interviews of *Māori* local river users about relevant local conservation and use values.

*A *Māori* research approach in which I establish my own tribal links *(Ngāti Hikairo, Ngāti Tutemohuta and Ngāti Porou)* to the three New Zealand rivers is an essential dimension of this part of the empirical research.

2. Description of Research Method:

i. Who will be the participants?
- *Māori* community members of three river *(Oparau, Harataunga & Waitahanui)* localities, and
- Environmental policy, planning and decision makers *(Māori & non-Māori)*

ii. How many participants will there be?
- 3 *Māori* river community focus groups (4 - 9 members per group),
- 4 - 10 key informant interviews per river community,
- 3 environmental policy, planning and decision maker focus groups (4 - 9 members), and
- 1 - 3 key informant interviews per river jurisdiction.

iii. How will the participants be selected and recruited?

The selection and recruitment process has involved information gathering and fieldwork scoping from 2000-2002/3 (see *Attachments B1 & B2)*. Recruitment and selection of *Māori* participants followed *Māori tikanga* in the practice of *Kaupapa Māori* research.

iv. How and when will the participants give their consent?

As per Attachments B1 & B2, I am now at the stage of obtaining informed consent from potential individual/group participants already identified. Once ethical approval has been given, I intend to revisit potential participants to confirm their participation. In that visit I will re-explain the research (also with information sheet [see *Attachments B4 & B5]*, answer their questions and get their written consent [see *Attachment B6*].

v. How will the participants be informed of the right to withdraw from the research at any stage and the conditions of withdrawal?

At the time of obtaining informed consent, these aspects will be explained plus outlined in both the information sheet and consent form.

vi. If the participants are unable to give their consent on their own behalf what provisions are being made to obtain consent?

This problem has been addressed in lengthy consultation and approval processes of the recruitment and selection phases. Specifically, I aim to cover such problems by obtaining departmental leader, *kaumatua & kuia* approval.

vii. Will the participants be selected on the basis of their ethnicity, culture, gender, sexuality and/ or in other ways which will exclude some people. Yes/ No

Yes - As the subject matter is cross-cultural involving both *Māori* and *Pākehā* research participants.

If Yes, explain how the selection process ensures that no person or group will be offended by either their inclusion in or their exclusion from the research.

I worked under the helpful guidance and advice of key informants to network me into each research context.

viii. Will the participants differ from the researcher in any significant way relevant to the research? e.g. culture, ethnicity, gender, sexual orientation, etc?
No, as I have similarities with both groups of research participants. I am a *Māori* woman from the areas of the rivers and a registered nurse (science background) by trade.

If yes, what procedures will be used to ensure that involvement in the research is culturally safe and non-offensive for the participants?
N/A

viiii. Will the research make comparisons between groups of participants on the basis of their culture, ethnicity, gender, sexual orientation, religion or ethical belief? Yes/ No
N/A
If yes
   (a) How will the individuals be specified into groups?
      N/A
   (b) What has been done to ensure that the participants will regard the categories as suitable and appropriate?
      N/A

   (c) What steps have been taken to ensure that neither the conduct of the research, nor its outcomes, will unfairly affect the participants.
      N/A

Part Two -

x. Where will the research be carried out?

I intend to hold *Māori* group interviews at the local *marae.* I also envisage that the personal *Māori* interviews will be held at the residence of the research participants. The non-*Māori* group and individual interviews will be held at their workplace.

xi. What procedures will be carried out?
(Please attach interview, questionnaire or survey items)

Both individual and group interviews will be carried out. For further details see *Attachments B4 - B8.*

xii. Are there any potential risks or discomforts to participants?

I propose that my focus on the reconciliation of values potentially minimises risk to the research participants by being pro-active and positive. The inclusion of recognition of both affinity and difference is another mechanism for lessening discomfort that could be further perpetuated by the focus on difference alone. Also, by consulting and getting approval long before opinions are collated, it was my intention to lessen any potential risk for individual/group participants.

xiii. What steps have been taken to preserve confidentiality? What will happen to the data after the completion of the research?

Both issues have been accounted for in my information sheets and consent form. Individuals will not be named, but the group orientation will be identified. Their anonymity is to be maintained in all publications. It is reiterated in the information sheet. I also mention in the information sheet that the data on cassette tapes will be erased following completion of my analysis of all of them. For further details see *Attachments B4 - B6.*

xiv. Who else will see any information provided by the participants; which is linked to the participant's names?

Besides myself as researcher, only my chief supervisor will view that information. It will be recorded in my field notebook, then it will be carefully destroyed.

xv. Are you associated with the participants in any way that might influence the ethical appropriateness of your conducting this research? (e.g employer/ employee, supervisor/ student, personal relationship).
N/A

xvi. Will participants receive material benefits from the research, such as payment of any kind for taking part, or reimbursement of expenses? Please specify.

Yes, *utu utu*, reciprocation, is most central in my engagement with the research participants. This includes ideological, material and practical reciprocation practices. In my viewpoint, *utu utu* is a reflexive practice of continual give and take. Thus, my giving (and taking) are continuous. From a material viewpoint, I intend to provide *koha,* money for the reimbursement of any personal expenses incurred by the research participants, such as travel or childcare. Gifts will also be given, to express my gratitude for their time and effort, including baskets of food (home-cooked), *Māori* calendars and souvenirs. Also, I will pay a *koha* to *marae* and other places which are frequented during the research for the use of electricity, etc. Lastly, as *utu utu* is seen to be all-embracing (past, present, future), these material costs will extend to my future acts of giving beyond the research 'proper'.

xvii. What provision is there to provide participants information about the outcome of the research?

A research report will be distributed near the end of the fieldwork. I also intend to compile another report on the submission of the thesis. Once the thesis has completed the examination process, the report will then be disseminated.

xviii. What has been done to ensure that the research procedures are not likely to be insensitive or cause offence (e.g. to specific ethnic, gender or age groups) or as not to waste the time of participants?

This is a robust and well thought out research project, with much consideration of the integrity and well-being of the research participants.

Part Three -

xviv. Does the research involve any concealment of information or deception? If yes, please answer the following:

N/A

A. What is the justification for the use of such procedures on scientific grounds? Include an explanation of why other, non-procedures could not be used.

N/A

B. How will you obtain consent from the participants to waive their right to prior information on the nature and purpose of the study?

N/A

C. How will you ensure that the participants are given full explanation withheld and the reasons as it was withheld as soon as practicable?

N/A

D. How will participants be debriefed about the deception?

N/A

Applicants Signature: _____ Date: _____

           * signed April, 2003

Supervisors Approval:

Staff members carry full responsibility at all times for the ethical appropriateness of all graduate and undergraduate research under their supervision, even when this research has been submitted for ethical review.

I have read the ethical review, and in my opinion, this research is ethically sound. I consider that this student has the necessary background and experience to carry out this research ethically and completely under my supervision.

Supervisors Signature:_____ Date:_____

           * signed April, 2003

<u>IGCI Human Ethics Committee Approval:</u>

Signature: _____ Date: _____

Signature: _____ Date:_____

           * signed April, 2003

Attachment B2

Selection and recruitment of *Māori* participants:

- As per the *Māori* methods of the study

Information gathering & preliminary scoping of field: Ongoing contact
                                                                                          &
Phase One - Immediate *whānau* consultation   community
& approval *(kaumatua & kuia* endorsement)   involvement

(Completed, 2000)

Phase Two **-** Extended *whānau* consultation &
                       approval

(Completed, 2000)
Phase Three **-** *Hapu & iwi* consultation &
                         approval

(Completed, 2000-2002)
Phase Four - Preliminary visit potential
                     group participants: consultation &
                     approval

(Completed, 2000-2002/3)
Phase Five - Follow up visit to confirm participation
                     informed consent stage

(Completed, January - March/ 2003)

Phase Six - Undertake group/ individual interviews

(Expected duration 2 months: To be completed by July, 2003)

Attachment B3

Selection and recruitment of non-*Māori* research participants

- As per the non-*Māori* methods of the study

Information gathering and preliminary scoping of field

Ongoing contact
& involvement

Phase One:
Data gathering of key environmental institutions (Ministry for the Environment, regional and district councils) and identification of EPI policy, planning and decision makers

(Completed, 2000)

Phase Two:
Visit organisations, establish contact & introduce research

(Completed, 2000)

Phase Three:
Department leader(s) consultation and approval

(Completed, 2000-2002)

Phase Four:
Staff member(s) consultation and approval

(Completed, 2000-2002)

Phase Five:
Revisit to establish confirmation of group interview participation/ informed consent

(Completed, January - March/2003)

Phase Six:

Undertake group/ individual interviews

(Expected duration: 1-2 months: To complete by June/2003)

Attachment B4

Information Sheet:

Māori and scientific conservation and use values study *(Waitahanui, Oparau & Harataunga* river community case studies)

Student researcher: Katie Simon, khs1@waikato.ac.nz
Contact ph: 07/ 8343346 or 0291204020

My research considers the potential contribution of *Māori* conservation and use values, *ngā tikanga tūpato* to the well-being of our world. I take a comparative approach, which looks at both the differences and similarities between *Māori* and scientific conservation and use values. I am very interested in finding conservation values that are similar or shared. By seeing the comparison, I hope to gain a better appreciation of *Māori* conservation and use values, *ngā tikanga tūpato.*

On one side, I will be examining values informing river policy, planning and decision making. In comparison, I also examine values which are relevant to river dwellers of three *Aotearoa/* New Zealand river *(Waitahanui, Oparau* and *Harataunga)* communities. Thus, both sides are looked at in my comparative analysis of values.

In the three river community case study interviews, I am primary concerned with your experiences as *kaitiaki*, stewards of the rivers. The interview is in three parts as follows: Part One - Your background and role as *kaitiaki,* Part Two - Your experiences as *kaitiaki,* and Part Three - Your values as *kaitiaki*. I intend for the interview to last approximately 30 minutes.

In a few weeks after this interview, I may ask for a follow up personal interview from one or more individuals in the river community. In this short individual interview (10-15 minutes), I will be following up on a key issue(s) you raised in the discussion.

The information obtained from the interview(s) will contribute to my doctoral thesis and related publications, which will be available to the public. It will only be used for this purpose.

I would like to tape each session and the recordings will be erased on completion of the research. Although I identify the river communities generally, no individuals will be identified in any publication/ dissemination of the research findings.

If you participate in this study you have the right to:

- refuse to answer any particular question and to withdraw from the study at any time,
- ask any further questions about the study that occurs to you during your participation,
- be given access to a summary of the findings from the study, when it is concluded.

Nb. The information sheet is yours to keep and I will also supply you with a copy of your completed consent form.

Attachment B5

Information Sheet:

Māori and scientific conservation and use values study
(environmental policy, planning, *iwi* liaison, decision maker group)

Student researcher: Katie Simon
Contact ph: 07/ 8562440
07/ 3768999

I am doing a cross-cultural study about the implementation of *Māori* and scientific conservatory and use values in the development of environmental performance indicators. The research involves a general investigation of environmental policy, planning and decision making; and specifically case studies of three *Aotearoa/* New Zealand rivers *(Oparau, Waitahanui* and *Harataunga).*

My key focus is on the comparison of the similarity and differences of values. I am particularly interested in finding the conservation values that are common or shared. Through such a comparative approach, I hope to gain a better appreciation of the potential contribution of *Māori* conservation and use values to sustainability.

In this interview, I am concerned with your understandings of *Māori* and scientific conservation and use values. The interview is in three main parts as follows: Part One: Your role and background as environmental worker; Part Two: Your environmental worker experiences and work practices; and Part Three: Your environmental worker values. I intend for the interview to last approximately 30 minutes.

In a few weeks after this interview, I may ask for a follow up personal interview from one or more individuals in your workplace. In this short individual interview (10-15 minutes), I will be following up on a key issue(s) you raised in the discussion.

The information obtained from the interview(s) will contribute to my doctoral thesis, which will be available to the public. It will only be used for this purpose.

I would like to tape each session and the recordings will be erased on completion of the research. Although I identify environmental organisations generally, no individuals will be identified in any publication/ dissemination of the research findings.

If you participate in this study you have the right to:

- refuse to answer any particular question and to withdraw from the study at any time,
- ask any further questions about the study that occurs to you during your participation,
- be given access to a summary of the findings from the study, when it is concluded

Nb. The information sheet is yours to keep and I will also supply you with a copy of your completed consent form.

Attachment B6

Consent Form:

Māori and scientific conservation and use values study

Student researcher: Katie Simon, khs1@waikato.ac.nz
Contact Ph No: 07/ 8343346 or
0291204020

I have read all the information sheets for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction and I understand that I may ask further questions at any time.

I also understand that I am free to withdraw from the study at any time, or to decline any particular questions in the study. I agree to provide information to the researcher under the conditions of confidentiality set out in the information sheet.

I wish to participate in this study under the conditions set out in the information sheet.

Informant signature: _____

Informant Name: _____

Date: _____

I agree to comply to the conditions outlined in the information sheet.

Researchers signature: _____

Date: _____

Nb: You will be supplied with a copy of your completed consent form.

Attachment B7

Set of points guide/ Research interviews (River community case studies)

Part 1: Introduction (5 minutes approximately)
- *Karakia* - Refreshments - *Whakawhānaungātangā*
Part 2: Body (25 minutes approximately)
i. Topic 1: Background - Family history - Occupation - Personal details - Environmental views (river) - *Māori* viewpoint *ii. Topic 2:* Experiences - River/ recreational - River/ subsistence - River/ *whānau* - River/ cultural - River/ degradation, pollution - River/ community *iii. Topic 3:* Values - River/ knowledge (general) - River/ knowledge *(Māori)* - River/ values (general) - River/ values *(Māori)*
Part 3: Conclusion (5 minutes approximately)
- Other issues - Follow up possibilities - Questions - *Karakia*

Attachment B8

Set of points guide/ Research interviews (environmental hierarchies)

Part 1: Introduction (5 minutes approximately)
- Brief of interview format - Questions - Administration/ research information sheet
Part 2: Body (25 minutes approximately)
i. Topic 1: Environmental worker role - occupational details - work history - departmental role - job description - worker relationships - inter-departmental links *ii. Topic 2:* Environmental worker experiences - Indicators/ historical - Indicators/ general work context - Indicators/ specific work context - Indicators/ science - Indicators/ *Māori* - Indicators/ synergies? *iii. Topic 3:* Environmental worker values - Values/ historical - Values/ general work context - Values/ specific work context - Values/ science - Values/ *Māori* - Values/ synergies
Part 3: Conclusion (5 minutes approximately)
- Other issues - Follow up possibilities - Questions - Administration, upcoming events - Keeping in contact

Appendices 3.5bi,ii   Research participant information forms[79]

Appendix 3.5bi   Research participant information form - *Māori* river case studies

Interview No. _____

River community: _____

Please fill in the following:

Tribal affiliation: _____

Age: _____

Male/ female: _____

Period living in/ near river community - Present: _____

_____

Past: _____

_____

Main activities undertaken on river: _____

_____

_____

Other comments: _____

_____

Can you please fill in this form to provide supplementary information about your background as river kaitiaki. I will carefully file the form for analysis. It will then be safely discarded after the analysis phase is complete. Also, please note that only my chief supervisor will see this form and related analytical data during the analysis of such material.

---

[79] These two appendices present the research participant information forms of the *Māori* river case studies *(Appendix 3.5bi)* and the environmental authorities *(Appendix 3.5bii).*

Appendix 3.5bii   Research participant information form - Environmental authorities

Interview No. _____

Department: _____

Please fill in the following:

Present Occupation: _____

Length of employment: _____

Key role (s) and responsibilities: _____

_____

_____

Main profession/ trade/ qualification: _____

_____

Other: _____

_____

Work background & period under the RMA 1991: _____

_____

Work background & period before the RMA 1991: _____

_____

Can you please fill in this form to provide supplementary information about your present and past work experiences and background. As per the information sheet, this form will be carefully put away for analysis then discarded after that phase is complete. Also, please note that only my supervisor will see this form and related analytical data during the analysis of such material.

Appendix 3.5c   The household survey form of the study[80]

Street:		
House No:		
Resident(s) no:		
Age group(s):		
Under 25 years	25-50 years	Over 50 years
Ethnicity:		
Māori	Non-*Māori*	
Tribal affiliation:		
Local:	Non-local:	
River association:		
Yes:	No:	
River user status:		
River user:	Non-river user	
Main activities river user:		
Follow up interview:		
Yes:	No:	
Yes/ Individual:	Yes/ Group:	
Research information sheet:		
Seen:	Copy retained:	
Research consent form:		
Signed:	Copy retained:	
Research participant information form:		
Filled in:	Follow up:	
Details follow up visit:		
Date:	Time:	
Other comments:		

---

[80] Next, I put forward the household survey form of the *Māori* community case study fieldwork *(Appendix 3.5c).*

Appendix 3.5d   Flyer - *Māori* river case studies[81]

HARATAUNGA

RIVER   STUDY

May – July/ 2003

Student researcher:
Katie Simon, University of Waikato

This study is part of my doctoral research about the environmental management and governance of *Aotearoa/* New Zealand rivers.

I will be conducting a household survey and individual/ group interviews during the above period to gauge local perspectives of the river.

My key focus is on your local experiences, knowledge and values of the river.

If you have any enquiries or are interested in participating in the study, please don't hesitate to contact me (contact details below) - your interest and participation is very much appreciated.

Contact details:
E mail: khs1@*waikato.*ac.nz
Mobile: 0291204020
Work Ph: 07/ 8384466, ext 7633

Postal: The International Global Change Institute,
University of *Waikato,*
Private Bag 3105, Hamilton

---

[81] The above flyer was disseminated within each river community case study. For example, this one relates to the *Harataunga* community case study.

Appendix 3.5e   Research participant follow up visit form[82]

River community:	
Interview No:	
Date:	
Time:	

Tena koe _____,

Thank you for agreeing to participate in my study of the _____ river.

The research information sheet and consent form are yours to keep for your record.

Could you please fill in the research participant information form and hand back to me - thank you.

Our individual/ group interview is on

_____

at _____

Please don't hesitate to contact me if you have any queries about the research (contact details below).

Unless hear otherwise, look forward to talking with you at the above date and time.

Kia ora,

Katie Simon, student researcher
khs1@*waikato*.ac.nz
Mobile: 029 1204020
Work: 07/ 8384466, ext 7633

---

[82] As required, I utilised a research reminder notice *(Appendix 3.5e).*

Appendix 3.5f   Research *waiata*[83]

Waiata o ngā awa

E rere te wai
I nga tupuna e
Tu ngai koutou
E wairua e

Kaumatua mo koutou
Mokopuna e
Ko hau te nei
E tangi atu nei

E huri na koutou
I rere te wai
E rere i te moana
I Harataunga/ Oparau/
Waitahanui e

---

[83] As warranted, I performed a *waiata,* song pertaining to river *kaitiakitanga(Appendix 3.5f).* I acknowledge *whānau* approval for it's use in the research.

Appendices 3.5gi,ii,iii,iv Fieldwork data collection notes[84]

Appendix 3.5gi Preliminary guidelines form[85]

Step One:

Re-contact key informants and advise of fieldwork readiness
(Provide information sheet, consent form & participant information
form)

Step Two:

Check availability and renewed interest
Establish interview date/ time

Step Three:

Get research participant(s) to fill in both the consent form and
participant information form *(Appendices 3.5bi,ii)* and return.
(If not possible, do form filling before interview and uplift then)

Step Four:

Researcher to sign returned consent form and send research
participant(s) a copy of the completed consent form *(with adjoining
letter, Attachment 2)*

Step Five:

Fill in individual/group interview date/ time on schedule of
interview sheet and attach completed consent form in adjoining
envelope

Step Six:

E-mail reminder 1-2 days before interview date/ time
Check final questions/ queries

---

[84] Various aids of data collection were utilised as follows *(Appendices 3.5gi,ii,iii,iv).*
[85] I followed six main steps in my preliminary engagement with the key informants of the study *(Appendix 3.5gi).*

Appendix 3.5gii   Group/individual interview schedule sheet - *Māori* river case studies[86]

Interview No:	RP code[87] M/F Age group:	RP code ERD/ PRD:	Date:	Time:

---

[86] A research interview timetable was utilised in the *Māori* community fieldwork *(Appendix 3.5gii)*.

[87] I used the following coding system of the *Māori* community case study research participants:
   i.   Gender code: Male (M) & Female (F),
   ii. Age group code: U25 (under 25), O25 (over 25) & O50 (over 50), and
   iii. River dweller code: ERD (existing river dweller) & PRD (past river dweller).

Appendix 3.5giii   Group/individual interview schedule sheet - Environmental authorities[88]

Interview No	RP code[89]	Organisation	Date	Time

---

[88]   A research interview timetable was also utilised in the environmental authority fieldwork *(Appendix 3.5giii).*

[89]   The environmental worker research participants were coded as either a: Policy maker (PM), Planner (P), Scientist (S), *Iwi* liaison worker (IW), Indicator development worker (IDW), and general decision maker (GDM).

Appendix 3.5giv   Group/individual interview follow up notes[90]

Interview One				
Interview details				
Date/ time	Time period	Consent Form	Thank you letter	Follow up
Comments:				

Interview Two				
Interview details				
Date/ time	Time period	Consent Form	Thank you letter	Follow up
Comments:				

Interview Three				
Interview details				
Date/ time	Time period	Consent Form	Thank you letter	Follow up
Comments:				

Interview Four				
Interview details				
Date/ time	Time period	Consent Form	Thank you letter	Follow up
Comments:				

Interview Five				
Interview details				
Date/time	Time period	Consent Form	Thank you letter	Follow up
Comments:				

---

[90] I kept follow up notes of each research interview; collating 5 interviews per page *(Appendix 3.5giv).*

Appendices 3.5hi,ii,iii,iv   Fieldwork correspondence

Appendix 3.5hi   Consent form letter[91]

To: Research participant (Interview no. 1,etc)
From: Katie Simon, student researcher
Re: Research interview consent form
Date: April - May, 2003

_____

Tena koe _____,

1. Thank you for filling in and returning both the consent form and participant information form.

2. Enclosed is a copy of the completed research consent form for your record.

3. Unless hear otherwise, look forward to talking with you in the interview tomorrow.

Kia ora,

Katie Simon
khs1@*waikato*.ac.nz
Mobile: 0291204020
Hm ph: 07/ 8343346
Wrk ph: 07/ 8384466, ext 7633
Fax: 07/ 8585689

---

[91] Correspondence was sent regarding my documentation of the research consent form *(Appendix 3.5hi).*

Appendix 3.5hii   Follow up interview correspondence[92]

To: Key informant
From: Katie Simon, student researcher
Re: Interview follow up information
Date:

_____

Tena koe _____,

1. Thank you for participating in my research project. I acknowledge and am grateful for the information you provided. I also very much appreciate the effort and time you gave for the telephone interview.

2. If you have any follow up questions or queries about the research project, please don't hesitate to contact me for answers - I am keen to provide the information you require.

3. The research will not end until I have completed writing up my thesis. In the meantime, I intend sending out an initial research findings report. Will be in contact soon, regarding this. I also intend to keep in touch until the research is finished, where another report will be presented.

4. Enclosed is a *koha (Māori* calendar), as a token of my appreciation. Again - thank you, and I look forward to sending out the research report in the next few weeks.

My best wishes -
Kia ora,

Katie Simon
khs1@*waikato*.ac.nz
Mobile: 0291204020
University Ph:
Fax:

---

[92] A follow up letter was sent to the research participants *(Appendix 3.5hii).*

Appendix 3.5hiii   Follow up/focused interview correspondence[93]

To:
From: Student researcher - Katie Simon
Re: Follow up interview
Date:

_____

Tena koe   ,

1. I would like to ask if I may have a focused follow up interview with you please?

2. I will make contact with you soon to ask if I can conduct the research interview during my last field visit or at another date/ time.

3. Enclosed is a general outline of the proposed interview as follows:

River community	
Informant category	
Personal/ telephone interview	To be arranged
Research interview date & time	To be arranged
Estimated time period	1 hour approx

Key theme of interview:	
Rationale:	

Interview schedule:	
Topic One:	
Key questions:	
Topic Two:	
Key questions:	
Topic Three:	
Key questions:	

4. Please don't hesitate to contact me with any queries re the above. Unless hear otherwise, look forward to making contact with you soon.

My best wishes - *Kia ora,*

Katie Simon
khs1@*waikato*.ac.nz
Mobile: 0291204020

_____

[93] In the case of follow up interviews, a reminder correspondence was sent out *(Appendix 3.5hiii).*

Appendix 3.5hiv   Final notification correspondence[94]

To: *Waitahanui* river community
From: Katie Simon,
student researcher
Re: Final field visit and follow up
Date: July, 2003

_____

Tena koutou katoa,

1. I wish to thank again the local community members in my last field visit who spoke with me re the *Waitahanui* river. Your help and assistance was very much appreciated.

2. In this field visit, the *Waitahanui* river data was clarified and confirmed. I also presented and got feedback about my preliminary findings (and comparative findings with the *Oparau* and *Harataunga* river studies) of the *Waitahanui* river study.

3. Although the main part of the fieldwork has been completed, some follow up interviews will be carried out. Again, my sincere thanks for your further participation.

4. Should the local community wish to have more input and require further consultation, please don't hesitate to contact me – your comments and queries are most welcome and will be promptly addressed.

Kia ora,

Katie Simon
khs1@*waikato*.ac.nz

_____

[94] I gave prior advice of my final fieldwork visit *(Appendix 3.5hiv).*

Appendix 3.5i   Preliminary findings report[95]

PhD research report/ preliminary findings -

<u>Working thesis title:</u> Synergistic conservation values? *Māori tikanga,* science, resource management and law

<u>Summary:</u> Comparative study of environmental performance indicator development at the local level of environmental monitoring

<u>Fieldwork of thesis:</u> Environmental governance and management (district, regional & national government authorities) of 3 *Aotearoa/* New Zealand *(Harataunga, Oparau & Waitahanui)* rivers

Contents:
- Introduction
Part One: General overview
Part Two: Preliminary fieldwork findings
Part Three: Summary & future work

<u>By Katie Simon</u>
Student researcher, University of *Waikato*
Ngāti Tuwharetoa, Ngāti Hikairo & Ngāti Porou

<u>Contact details:</u>
Email: <u>khs1@*waikato*.ac.nz</u>
Postal: International Global Change Institute, University of *Waikato,* PO Box 3105, Hamilton, *Phone:* 07/ 8585647, *Mobile:* 0291204020

---

[95]   The research participants were provided with a 20 page report (consisting of the above title page), near the end of the fieldwork (October, 2003), *(Appendix 3.5i).*

APPENDIX 3.5j   Library research method set of point's guideline - further details

SIDE A
And/Also stance on *kaitiakitanga*
- Theory-methodological application of a *Māori* location in change   - Theory-methodological application of a *Māori* standpoint on meso and micro modernity   - Theory-methodological application of a change orientation encapsulating the empirical and analytical levels of the synergistic research model
ptrace...

Māori theoretical voice
- Theory-methodological application of a meso modernity terminology of value comparison   - Theory-methodological application of the nuanced reality concepts and acronyms   - Theory-methodological application of a micro modernity terminology of value comparison   - Theory-methodological application of the reflexive practice concepts and acronyms

Pro-*Māori* theoretical approach
- Theory-methodological application of the nuanced reality of *Māori* reflexivity or the adaptive capacity of *te ao Māori*   - Theory-methodological application of the reflexive practice of *Māori* reflexivity or the adaptive capacity of *te ao Māori*

***Te ao Māori* theoretical location**
- Theory-methodological application of *te ao Māori* on par with western science   - Theory-methodological application of *ngā tikanga tūpato* on par with western science

APPENDIX 3.5j continued

SIDE B
Theory-methodological terminology of value comparison

- Theory-methodological application of the nuanced reality terms of reference being formed and informed by the value change and reflexivity theoretical and practical terms of reference of the study

- Theory-methodological application of the reflexive practice terms of reference being formed and informed by the value change and reflexivity theoretical and practical terms of reference of the study

Theory-methodological scope of value comparison

- Theory-methodological application of the evolutionary heuristic application of modernity theory
- Theory-methodological application of the cross-cultural heuristic application of modernity theory
- Theory-methodological application of the multi-dimensional heuristic application of modernity theory
- Theory-methodological application of the comparative heuristic application of modernity theory
- Theory-methodological application of the inter-disciplinary heuristic application of modernity theory

Theory-methodological field of value comparison

- Theory-methodological application of the epochal change applications of modernity theory
- Theory-methodological application of the epochal development applications of modernity theory
- Theory-methodological application of the epochal contour analysis applications of modernity theory

APPENDIX 3.5j   Library research method set of point's guideline - further details (continued)

Theory-methodological evidential basis of value comparison

Māori modernity theorising of meso and micro And/Also nuanced problem solving - <u>Meso and micro evidential basis of the study</u>

Summary points (1)
- theorises the *te ao Māori* and western science paradigmatic shifts of reflexive modernisation and synergy related to meso and micro world and national/*Aotearoa* environmental governance (that is, the theoretical phenomena of value comparison)
- theorises the meso and micro And/Also *te ao Māori* and western science knowledge and value trajectory of global and national/*Aotearoa* environmental change (that is, the theoretical history of value comparison)

Summary points (2) - theorises meso and micro epochal change, meso and micro epochal development and the meso and micro epochal contours (that is, the theoretical topics of value comparison)

i. Meso and micro epochal change topics	*ii. Meso and micro epochal development topics*	*iii. Meso and micro epochal contour topics*
- meso and micro capitalism and cosmopolitan **-** meso and micro denatured nature or end of nature - meso and micro feudalism and fordism - meso and micro gemeinshaft and gesellschaft **-** meso and micro holistic relations **-** meso and micro industrialism - meso and micro liberalism - meso and micro metaphysical **-** meso and micro nature as enemy **-** meso and micro nature as one and organic **-** meso and micro organised irresponsibility **-** meso and micro place-based, space-based	**-** meso and micro multiple modernities **-** meso and micro WSK and IK paradigmatic shifts - meso and micro pre-modern thought **-** meso and micro risk society and network society **-** meso and micro reflexive modernisation **-** meso and micro second and late-modernity **-** meso and micro information and biotechnology ages - meso and micro modern thought and positivist scientism **-** meso and micro difference/distinction discourse **-** meso and micro modernisation	**-** meso and micro detraditionalisation of *ngā tikanga tūpato* (meso and micro diverse/multi-reflexivity, multi-reflexivity, collective institutional reflexivity) **-** meso and micro *ngā tikanga tūpato* and late-modern synergy **-** meso and micro *ngā tikanga tūpato* and reflexive modernisation **-** meso and micro modernisation of epochal contours **-** meso and micro globalization **-** meso and micro reflexivity (simple reflexivity, enhanced social reflexivity, social reflexivity) **-** meso and micro Judaeo-Christian/*Aotearoa* thought

APPENDIX 3.5j   (continued)

Theory-methodological evidential basis of value comparison		
i. Meso and micro epochal change topics	*ii. Meso and micro epochal development topics*	*iii. Meso and micro epochal contour topics*
- meso and micro social explosiveness of hazard - meso and micro sovereignty and state - meso and micro Westminster-Keynesian system - meso and micro Westphalia state system	- meso and micro post-materialist green thought - meso and micro relations of production - meso and micro relations of definition - meso and micro similarity and difference discourse	- meso and micro *Māori* migration and the creation myths - meso and micro traditional *Māori* society *(waka, iwi* and *hapu)*

APPENDICES 3.5ki,ii   The documented, oral and observable data collating and tabulating techniques of the library research method - further details

APPENDIX 3.5ki   The documented, oral and observable data collating technique of the library research method - further details

And/Also stance on *kaitiakitanga*	*Collated*
• Theory-methodological application of a *Māori* location in change	√
• Theory-methodological application of a *Māori* standpoint on meso and micro modernity	√
• Theory-methodological application of a change orientation encapsulating the empirical and analytical levels of the synergistic research model	√
***Māori* theoretical voice**	√
• Theory-methodological application of a meso modernity terminology of value comparison	√
• Theory-methodological application of the nuanced reality concepts and acronyms	√
• Theory-methodological application of a micro modernity terminology of value comparison	√
• Theory-methodological application of the reflexive practice concepts and acronyms	√
Pro-*Māori* theoretical approach	√
• Theory-methodological application of the nuanced reality of *Māori* reflexivity or the adaptive capacity of *te ao Māori*	√
• Theory-methodological application of the reflexive practice of *Māori* reflexivity or the adaptive capacity of *te ao Māori*	√
***Te ao Māori* theoretical location**	√
• Theory-methodological application of *te ao Māori* on par with western science	√
• Theory-methodological application of *ngā tikanga tūpato* on par with western science	√

APPENDIX 3.5kii   The documented, oral and observable data tabulating technique of the library research method - further details

Theory-methodological terminology of value comparison	*Tabulated*
• Theory-methodological application of the nuanced reality terms of reference being formed and informed by the value change and reflexivity theoretical and practical terms of reference of the study	√
• Theory-methodological application of the reflexive practice terms of reference being formed and informed by the value change and reflexivity theoretical and practical terms of reference of the study	√
Theory-methodological scope of value comparison	√
• Theory-methodological application of the evolutionary heuristic application of modernity theory	√
• Theory-methodological application of the multi-dimensional heuristic application of modernity theory	√
• Theory-methodological application of the cross-cultural heuristic application of modernity theory	√
• Theory-methodological application of the inter-disciplinary heuristic application of modernity theory	√
• Theory-methodological application of the comparative heuristic application of modernity theory	√
Theory-methodological field of value comparison	√
• Theory-methodological application of the epochal change applications of modernity theory	√
• Theory-methodological application of the epochal contour analysis applications of modernity theory	√
• Theory-methodological application of the epochal development applications of modernity theory	√
Theory-methodological evidential basis of value comparison	√
• Theory-methodological application of the meso and micro epochal change topics	√
• Theory-methodological application of the meso and micro epochal development topics	√
• Theory-methodological application of the meso and micro epochal contour topics	√

APPENDIX 3.5l   The discourse analysis set of point's guideline - further details

SIDE A	
Materialism (M) theory-categorisations of the value continuum	
And/Or - materialism growth over conservation (M-GroC)	And/Also - materialism growth versus conservation (M-GrvC)
aroha/M-GroC	*aroha*/M-GrvC
*kaitiaki//*M-GroC	*kaitiaki//*M-GrvC
kotahitanga/M-GroC	*kotahitanga*/M-GrvC
manaaki/M-GroC	*manaaki*/M-GrvC
mauri/M-GroC	*mauri*/M-GrvC
wāhi tapu /M-GroC	*wāhi tapu* /M-GrvC
wairua/M-GroC	*wairua*/M-GrvC
whakapapa/M-GroC	*whakapapa*/M-GrvC
whānau/M-GroC	*whānau*/M-GrvC
Materialism (M) theory-categorisations of the value continuum	
And/Or - materialism growth over conservation (M-GroC)	And/Also - materialism growth versus conservation (M-GrvC)
anthropocentrism/M-GroC	anthropocentrism/M-GrvC,
biological determinism/ M-GroC	biological determinism/M-GrvC,
dualism/M-GroC	dualism/M-GrvC
economic determinism/M-GroC	economic determinism/M-GrvC
empiricism/M-GroC	empiricism/M-GrvC
individualism/M-GroC	individualism/M-GrvC
mechanism/M-GroC	mechanism/M-GrvC
reductionism/M-GroC	reductionism/M-GrvC

APPENDIX 3.5l   (continued)

SIDE B	
Post-materialist green (PG) theory-categorisations of the value continuum	
And/Or - post-materialist conservation over growth (PG-CoGr)	And/Also - post-materialist conservation versus growth (PG-CvGr)
aroha/PG-CoGr	*aroha*/PG-CvGr
*kaitiaki//*PG-CoGr	*kaitiaki//*PG-CvGr
kotahitanga/PG-CoGr	*kotahitanga*/PG-CvGr
manaaki/PG-CoGr	*manaaki*/PG-CvrG
mauri/PG-CoGr	*mauri*/PG-CvrG
wāhi tapu /PG-CoGr	*wāhi tapu* /PG-CvGr
wairua/PG-CoGr	*wairua*/PG-CvGr
whakapapa/PG-CoGr	*whakapapa*/PG-CvGr
whānau/PG-CoGr	*whānau*/PG-CvGr
Post-materialist green (PG) theory-categorisations of the value continuum	
And/Or - post-materialist conservation over growth (PG-CoGr)	And/Also - post-materialist conservation versus growth (PG-CvGr)
anthropocentrism/PG-CoGr,	anthropocentrism/PG-CvGr
biological determinism/PG-CoGr	biological determinism/PG-CvGr
dualism/PG-CoGr	dualism/PG-CvGr
economic determinism/PG-CoGr	economic determinism/PG-CvGr
empiricism/PG-CoGr	empiricism/PG-CvGr
individualism/PG-CoGr	individualism/PG-CvGr
mechanism/PG-CoGr	mechanism/PG-CvGr
reductionism/PG-CoGr	reductionism/PG-CvGr

APPENDICES 3.5mi,ii,iii,iv   The documented, oral and observable data scanning, assessment, coding and triangulation techniques of the discourse analysis method - further details
APPENDICES 3.5mia,b   The documented, oral and observable data scanning forms of the performance/performativity and autopoesis categories - further details
APPENDIX 3.5mia   The documented data scanning form of the performance/performativity category - further details

1. And/Also stance on kaitiakitanga			*Assessment comments*
- *Māori* location in change	*na*	*a*	
- *Māori* standpoint on meso modernity	*na*	*a*	
- change orientation	*na*	*a*	
2. Māori theoretical voice			*Assessment comments*
- meso modernity terminology of value comparison	*na*	*a*	
- nuanced reality concepts and acronyms	*na*	*a*	
3. Pro- Māori theoretical approach			*Assessment comments*
- nuanced reality of *Māori* reflexivity or the adaptive capacity of *te ao Māori*	*na*	*a*	
4. Te ao Māori theoretical location			*Assessment comments*
- *te ao Māori* on par with western science	*na*	*a*	
- *ngā tikanga tūpato* on par with western science	*na*	*a*	

APPENDIX 3.5mia   (continued)

5. *Theory-methodological terminology of value comparison*			*Assessment comments*
- nuanced reality terms of reference	*na*	*a*	
6. *Theory-methodological scope of value comparison*			*Assessment comments*
- evolutionary heuristic application of modernity theory	*na*	*a*	
- cross-cultural heuristic application of modernity theory	*na*	*a*	
- inter-disciplinary heuristic application of modernity theory	*na*	*a*	
- multi-dimensional heuristic application of modernity theory	*na*	*a*	
- comparative heuristic application of modernity theory	*na*	*a*	
7. *Theory-methodological field of value comparison*			*Assessment comments*
- epochal change applications	*na*	*a*	
- epochal development applications	*na*	*a*	
- epochal contour analysis applications	*na*	*a*	

APPENDIX 3.5mib   The documented, oral and observable data scanning form of the autopoesis category - further details

1. And/Also stance on kaitiakitanga			Assessment comments
- *Māori* location in change	*na*	*a*	
- *Māori* standpoint on meso modernity	*na*	*a*	
- change orientation	*na*	*a*	
2. Māori theoretical voice			*Assessment comments*
- meso modernity terminology of value comparison	*na*	*a*	
- nuanced reality concepts and acronyms	*na*	*a*	
3. Pro- Māori theoretical approach			*Assessment comments*
- reflexive practice of *Māori* reflexivity or the adaptive capacity of *te ao Māori*	*na*	*a*	
4. Te ao Māori theoretical location			*Assessment comments*
- *te ao Māori* on par with western science	*na*	*a*	
- *ngā tikanga tūpato* on par with western science	*na*	*a*	

APPENDIX 3.5mib   (continued)

5. *Theory-methodological terminology of value comparison*			*Assessment comments*
- reflexive practice terms of reference	*na*	*a*	
6. Theory-methodological scope of value comparison			*Assessment comments*
- evolutionary heuristic application of modernity theory	*na*	*a*	
- cross-cultural heuristic application of modernity theory	*na*	*a*	
- inter-disciplinary heuristic application of modernity theory	*na*	*a*	
- multi-dimensional heuristic application of modernity theory	*na*	*a*	
- comparative heuristic application of modernity theory	*na*	*a*	
7. Theory-methodological field of value comparison			*Assessment comments*
- epochal change applications	*na*	*a*	
- epochal development applications	*na*	*a*	
- epochal contour analysis applications	*na*	*a*	

APPENDIX 3.5mii   The documented, oral and observable data scanning form and the assessment sections/case example - further details

PERFORMANCE/PERFORMATIVITY CATEGORY - *DATA SOURCE*: MfE, (1999)a.			
Preliminary estimated correlated finding:			*GROWTH OVER CONSERVATION*
1. And/Also stance on kaitiakitanga			*Assessment comments*
- *Māori* location in change	*na*	*a* √	*- Only in my research terms of reference, not applicable in the document* *- Change location not from an And/Also stance, And/Or oriented*
- *Māori* standpoint on meso modernity	*na*	*a* √	*Same as the above*
- change orientation	*na*	*a* √	*Same as the above*
2. Māori theoretical voice			*Assessment comments*
- meso modernity terminology of value comparison	*na*	*a* √	*Growth exemplar terminology*
- nuanced reality concepts and acronyms	*na*	*a* √	*Same as the above*
3. Pro- Māori theoretical approach			*Assessment comments*
- nuanced reality of *Māori* reflexivity or the adaptive capacity of *te ao Māori*	*na*	*a* √	*Oriented toward growth over conservation*
4. Te ao Māori theoretical location			*Assessment comments*
- *te ao Māori* on par with western science	*na*	*a* √	*- Only in my research terms of reference, not applicable in the document*
- *ngā tikanga tūpato on par with western science*	*na*	*a* √	*- Only in my research terms of reference, not applicable in the document*

APPENDIX 3.5mii   (continued)

5. Theory-methodological terminology of value comparison			*Assessment comments*
- nuanced reality terms of reference	*na*	*√a*	*Growth exemplar terminology*
6. Theory-methodological scope of value comparison			*Assessment comments*
- evolutionary heuristic application of modernity theory	*na* *√*	*a*	*- Only in my research terms of reference, not applicable in the document* *- Very short evolutionary time frame*
- cross-cultural heuristic application of modernity theory	*na* *√*	*a*	*- Only in my research terms of reference, not applicable in the document* *Value/knowledge systems not considered cross-culturally*
- inter-disciplinary heuristic application of modernity theory	*na* *√*	*a*	*- Only in my research terms of reference, not applicable in the document* *Value/knowledge systems not considered inter-disciplinarily*
- multi-dimensional heuristic application of modernity theory	*na* *√*	*a*	*- Only in my research terms of reference, not applicable in the document* *Value/knowledge systems not considered multi-dimensionally*
- comparative heuristic application of modernity theory	*na* *√*	*a*	*- Only in my research terms of reference, not applicable in the document* *Value/knowledge systems not considered comparatively*
7. Theory-methodological field of value comparison			*Assessment comments*
- epochal change applications	*na*	*a* *√*	*Follow on passages related to meso organised irresponsibility (hierarchy), meso social explosiveness of hazard (verticality) and meso sovereignty (vertical governance)*
- epochal development applications	*na*	*a* *√*	*Follow up on passages related to meso positivist scientism (verticality), and meso relations of definition (re-matching)*
- epochal contour analysis applications	*na*	*a* *√*	*Follow up on passages related to meso enhanced social reflexivity (re-matching), and meso detraditionalisation (hierarchy)*

APPENDICES 3.5miiia,b The documented, oral and observable data coding technique of the discourse analysis method - further details

APPENDIX 3.5miiia   The documented coding technique of the discourse analysis method/case example of the performance/ performativity category - further details

PERFORMANCE/PERFORMATIVITY CATEGORY	
Descriptive coding	**Code type:**
- Supremacy/ The United Nations Development Program (UNDP) criticises the Trade Regulation International Policies (TRIPs) Agreement in its 1999 Human Development Report as undermining food security and public health in developing nations. The UNDP reports that TRIPs rules make it much more costly for poor and developing countries to produce seeds for crops and make medicine more accessible to the public (United Nations Development Program, 1999: 2). - Verticality/ From the time of the first European vessels reached the shores of continents long inhabited by indigenous peoples, European colonists adopted a terra nullius world view. Our lands were declared vacant by papal bulls you created to justify the pillaging of our lands . . . Only recently has the world begun to concede the inaccuracy of racism behind this view. There is an almost desperate attempt by the descendants of colonizers to consign the terra nullius perspective to history, but recent developments in the area of human genetic research, engineering and human gene patents brings back haunting and painful memories to indigenous peoples of European colonial domination (Mead, 1996: 46). - Hierarchy/ The Global debt . . . How were sovereign countries brought under the tutelage of the international financial institutions? Because countries were indebted, the Bretton Woods institutions were able to oblige them through the so-called 'conditionalities' attached to the loan agreements to 'appropriately' redirect their macro-economic policy in accordance with the interests of the official and commercial creditors . . . (Chossudovsky, 1997: 47). - Re-matching/ Indigenous knowledge is an important natural resource. . . Modern scientific knowledge is centralised and bearers believe in its superiority. Indigenous knowledge, in contrast, is scattered and associated with low prestige rural life; even those who are its bearers may believe it to be inferior . . . (Agrawal, 1995: 415 - 16).	<u>growth over conservation</u>

APPENDIX 3.5miiia   The documented coding technique of the discourse analysis method/case example of the performance/ performativity category - further details (continued)

PERFORMANCE/PERFORMATIVITY CATEGORY	
Descriptive coding	**Code type:**
- Vertical governance/ An open, equitable, secure, non-discriminatory and predictable multilateral trading system that is consistent with the goals of sustainable development and leads to the optimal distribution of global production in accordance with comparative advantage is of benefit to all trading parties (Section 2.5, 1992 Agenda 21). - Multiplicity/ The worldwide outpouring of concern for the environment and biodiversity expressed at the UN Earth Summit in 1992 has coalesced in many ways with movements for cultural diversity, social diversity, social justice, the rights of poor and indigenous peoples, women, and all those marginalized by economism. Because indigenous peoples developed cultures and coevolved with other species in specific ecosystems, an understanding of the inseparability of biodiversity and cultural diversity has been able to emerge. Destroying an ecosystem means destroying the habitats of not only indigenous peoples but all other unique and diverse species. Such lessons are slowly being absorbed by politicians, developers and ecological economists . . . Particularly on issues of sustainable development, 'first nations' Aboriginal land claims, such as those now being adjudicated in Canada, Australia, and New Zealand, are also based on the legitimate claim that indigenous peoples have been stewards and wise custodians of these ancestral lands - maintaining and enhancing their bio-diversity . . . (Henderson, 1996: 31 - 32, 185). - Multiple sustainability model/Biological and cultural diversity are not discrete and separable 'goods'; they are synergistic 'goods', meaning the whole is greater than the sum of the parts. Indigenous peoples are intrinsic to biological diversity and vice versa and from this synergy all of humankind benefits through development, which is sustainable. There are a variety of categories of argument for sustaining such diversity . . . Aesthetic - arguments that biological and cultural diversity have intrinsic value that is or ought not to be commodified (Havemann et al., 2002: 11).	<u>conservation versus growth</u>

APPENDIX 3.5miiib   The documented coding technique of the discourse analysis method/case example of the autopoesis category - further details

AUTOPOESIS CATEGORY	
Descriptive coding	**Code type:**
- official discourse (multi-reflexivity)/ we call it scientific and technical language . . . beyond the grasp of average people . . . and that's the way its got to be . . . it's a specialised communication between experts . . . and that's why I think scientific communication is so successful . . . because it requires a high level of understanding before the conversation even begins . . . have to know and be proficient at the whole protocol of scientific communication . . . it is quite specialised and technical . . . only able to be grasped by experts . . . that's because it's about a specialised communication between experts (Environment *Waikato* research participant, 2003). - hierarchy (multi-reflexivity)/ . . . on the other side . . . I have found that the experience working with *Māori* has been fairly sporadic . . . I actually thought that there would be a lot more working experience in here shared amongst staff . . . the networks weren't as well developed as I thought they might have been after 12 years of the *Resource Management Act* . . . now that surprised me . . . so I guess the councils probably been sitting on it's hands in the *Māori* area . . . mainly focused at the high level of Trust Boards . . . and even though there are individuals in the staff that have got good working relationships with *Māori* they're isolated and not networked in but rather the information that's stored in their heads and not shared around . . .*(iwi* liaison officer, Environment *Waikato,* 2003). - verticality (collective institutional reflexivity)/ . . . the bulk of the indicator work has been completed . . . now moved on to other policy work . . . all finished . . . (policy maker, Ministry for the Environment, 2003). - vertical sustainability model (multi-reflexivity) . . . the strand approach . . . problematic . . . *Māori* already pre-defined . . . *(Iwi* liaison officer, Ministry for the Environment).	<u>growth versus conservation</u>

APPENDIX 3.5miiib   The documented coding technique of the discourse analysis method/case example of the autopoesis category - further details (continued)

AUTOPOESIS CATEGORY	
Descriptive coding	**Code type:**
- multiple sustainability model (collective river/*wai* eco-living)/ But really the *mauri* of the area belongs to the *Ngāti Hikairo* people, the whole of *Kāwhia*. The way I see the *Resource Management Act* is to bring in all the *hapu* together around the harbour and to work together. If you know your boundaries and then appoint a delegate to handle their boundaries but you need to work together. But I think that *Ngāti Hikaro* has put it in place . . . you know with your brother . . . and . . . , and various others around the harbour all part of that committee for resource management, working as a team . . . dealing with councils. But, the most important thing is to compromise what's good for him and what's good for us on equal terms. And that's how I work . . . scientific knowledge, scientists . . . we need that . . . I think it's a good thing . . . you know . . . we can go back to the old world back to *taha Māori tikanga*, the spiritual dimension . . . but we have to look at it too . . . the generations change . . . the years change . . . were in the age of the micro-chip now . . . we need to put scientists in there . . . you know . . . like the *taiapuhe* . . . a place where they have boundaried off where commercial fisherman can't fish . . . but before they got there, scientists found out what was the cause for the loss of the fish there . . . also from the scientists we got information about the cause of pollution in chemicals and the farms . . . but how can we avoid that . . . they need those chemicals on their farms . . . a very tricky problem that one . . . but a lot of chemicals going way back were wasted . . . wasn't used for the purpose they were given for . . . I know that a lot of those chemicals were buried . . . a big hole was dug . . . eventually that would seep into the rivers and back into the sea . . . and that was a lot of the reason why our seafood is gone . . . we've found that out now through scientists . . . I totally agree that we need scientists in there to help like this . . . *(Māori kaitiaki, Oparau* river community case study, 2003). - multiplicity (diverse/multi-reflexivity)/ My experiences of the river go back to early childhood and the river is representative of a past which cannot be duplicated and of course the river holds many aspects for me . . . it holds *mana,* it has a *mana* within itself, it has a meaning to us as a *hapu,* it has a standing in relation to our *hapu* . . . it is part and parcel of the *whakatauki* of this *hapu,* um, also representative of . . .	conservation over growth

APPENDIX 3.5miiib   The documented coding technique of the discourse analysis method/case example of the autopoesis category - further details (continued)

AUTOPOESIS CATEGORY	
Descriptive coding	**Code type:**
day's gone by . . . our *tupuna* . . . to the present day . . . So the river as it continues on it's way it's also able to extract its *mana* once it gets out into the lake and starts to filter itself down the *Waikato* river . . . *ne* . . . so our river is part of the journey to *Hawaiki nui, Hawaiki roa Hawaiki pamamao* . . . *ne* . . . so that its so important while it runs now that it is recognised for what it represents . . . So the learning . . . For me, *Māori* value in relation to the river, is I suppose if I had to put it into a category is non-negotiable . . . people would see that and say it's not open for discussion or it is open for discussion . . . in this it's open . . . *Māori* perception or belief in *Māori* value, is quite . . . it runs deep . . . it runs deep within your *whakapapa* . . . it runs deep within your *mana whenua* status . . . and it runs deep within your spirituality . . . so to actually say what does that mean . . . this is what it means . . . god created all things . . . he gave this and he gave that . . . so the river or the *wai* has got a spiritual connotation to it . . . um . . . so that the value is how do would we describe value ay . . . question . . . how would we describe value . . . for me, as *Māori* I would say this '*Koina te mana, te wehi, mo taku ahua, mo taku whakaaro, mo taku ngakau . . . ne*' and that straight away, that's depth *ne* in what is *Māori* value . . . so across the water of the *Waitahanui* river . . . um what does the word *Waitahanui* mean ne? Also, is this the *Waitahanui* of old . . . that is in name I'm talking about . . . see . . . we have many *Waitahanui's* . . . so . . . why was the name *Waitahanui* placed on this river? . . . and straight away it tells me this is a big *take* . . . a big *take* . . . a b . . . i . . . g . . . why they would put this name on this waterway . . so . . . where does this water come from? . . . where does it come from? It crosses the lands of the *Tauhara* Middle . . . it crosses the lands of *Wharetoto* . . . it crosses the lands of *Te Matai* . . . it crosses the lands of *Runanga* . . . see . . . now straight away . . . the waters in relation to the value . . . *ne* is the tears ne the tears of all our *tupuna's* right through back to it's source . . . so I suppose if you want to know in relation to the value that's what it represents . . . *(Māori kaitiaki, Waitahanui* river community case study, 2003).	<u>conservation over growth</u>

APPENDICES 3.5miva,b The documented, oral and observable data triangulation technique of the discourse analysis method - further details

APPENDIX 3.5miva   The documented triangulation technique of the discourse analysis method/case example of the performance/performativity category - further details

TRIANGUALATION OF OFFICIAL DICOURSE	
Descriptive coding	**Code type:**
- Official discourse/When a model has reached the formal perfection of World III and when so much effort and talent have gone into presenting its methodology in intelligible detail, its conclusions cannot be dismissed without resorting to similar methods and raising new questions to be answered by new models (Bailey, 1991: 177 - 178). - Official discourse/Although thousands of scientists have devoted their efforts to the question of how reliable WORLD III was and whether it is even at all possible to forecast the future in this manner, "Limits" has, in our view, come through all the criticism untarnished . . . because nobody has yet really succeeded in finding fault with the main calculations and the underlying hypothesis (Dieren, 1995: 2). - Official discourse/. . . we call it scientific and technical language . . . beyond the grasp of average people . . . and that's the way its got to be . . . it's a specialised communication between experts . . . and that's why I think scientific communication is so successful . . . because it requires a high level of understanding before the conversation even begins . . . have to know and be proficient at the whole protocol of scientific communication . . . it is quite specialised and technical . . . only able to be grasped by experts . . . that's because it's about a specialised communication between experts (Environment *Waikato* research participant, 2003). - Official discourse/Selection Criteria . . . Scientific Validity: the indicator should be technically and theoretically sound, consistent with scientific knowledge and understanding, and its significance defensible; and there should be wide consensus among credible experts that the indicator is valid . . . (Rump, 1996: 80).	<u>growth over conservation</u>

APPENDIX 3.5mivb   The documented triangulation technique of the discourse analysis method/case example of the autopoesis category - further details

TRIANGULATION OF THE HIERARCHY AND MULTIPLE MODEL CONNECTION	
Descriptive coding	**Code type:**
- Hierarchy and multiple model connection/. . . I think to have the information flowing both ways would be ideal rather than us finding a way that scientific information can go out . . . I don't think that anything is going to replace the legally defensible position of science . . . at the moment I can't see anything changing statistically correct, scientifically measured in the same way compared year to year but I think there's a whole other part that can be built up more and I'm a little vague about how that can be . . . because I guess I'm not sure whether it could happen in terms the pure sciences water quality parameters stuff, but I think very much more and more we need to look at what peoples perspectives of the environment are and manage accordingly because if you don't and just you only just look at the science numbers and the scientific measurements than your not going to get these enduring solutions because why should people do that . . . they may not necessary believe this to be true . . . but if you base your actions on peoples perceptions and keep them involved from the beginning and get that information coming from them then I reckon you save time and get to want to get to . . . (policy maker, Environment *Waikato,* 2003). - Hierarchy and multiple model connection/. . . you know the most creative thinkers that I have come across have been the *Māori* ones that got the RMA and absorbed it and understand it have and still know that their *Māori* and want to work that way and you can really get some awesome ideas out of them . . . right throughout the country . . . just awesome thinkers . . . I mean you take for example people like Ella Taylor down in Taranaki, *Naniko* Mihinnick, Stan Newton, you know . . . the people that stood on the fact that hey your polluting something that's basic to us and you see what that did to the whole of the environmental movement in New Zealand, it just shook it and it made it change . . . and then along the way because it changed direction and it was part of the contribution I believe that gave hope for *Māori* people that hang these things actually are important.	<u>growth versus conservation</u>

APPENDIX 3.5mivb   The documented triangulation technique of the discourse analysis method/case example of the autopoesis category - further details (continued)

Descriptive coding	Code type:
. . that we can actually change . . . we have got the ability to influence the future and create the future and that's what I think we need to get back into the ability to make and create the future . . . *(iwi* liaison officer, Environment *Waikato,* 2003). - Hierarchy and multiple model connection/. . . being open and listening . . . that's from both sides, everyone . . . then being prepared to share the information again from both perspectives . . . the move forward together based on the shared information and values . . . now that doesn't mean that all the value information is the same, but if at least we can define what is common, will find a lot there already . . . at the moment people think its different and not being shared . . . so I think that there is a lot of good work being done and is there already but that were just not making maximum use of it . . . (planner, Thames-Coromandel District Council, 2003). - Hierarchy and multiple model connection/. . . we need to keep a balance . . . no matter who . . . scientists . . . whatever . . . for instance . . . this is where the spiritual comes in again . . . you know the cow gene down here ay . . . it mingles the human gene within the cow and then you get this milk that goes out for tuberculosis . . . but a lot of our people didn't like the human gene mingling with the animal gene . . . now I went against it because of the *wairua* . . . you know we had a lot of problems with these animals . . . a cow would bunt, a horse would kick and a pig would rip, these are demi-gods brought by *Pākehā* to *Aotearoa* . . . it was very strange animals when our people first saw that and some *Māori* would use them as demi-gods, a cow was one . . . not good . . . so this is why I went against the scientists . . . did you know that some of our people would use these demi-gods to punish people? . . . like voduism . . . when these people got angry with the others they would say I'll use my cow to bunt you or my horse to kick you to death . . . and I explained this to our people and there are a lot of old *Māori* words and *whakatauki* for this . . . and I said this is the reason that I do not like our gene mixing with animals . . . it's not good, not right . . . there wasn't a balance in it . . . nothing . . . and all I could see in it was the . . .	growth versus conservation

APPENDIX 3.5mivb   The documented triangulation technique of the discourse analysis method/case example of the autopoesis category - further details (continued)

Descriptive coding	Code type:
. . . almighty dollar because its worth billions and billions of dollars . . . but eventually they could see what I was talking about . . . so we have to work in with scientists . . . keep the channels open to talk and listen . . . we got to remind them hey this what we believe in . . . you know I went to Wellington for this . . . at ERMA . . . and it jammed them up for years, they were very, very worried . . . also, they showed the area at *Ruakura* here how well protectively enclosed these animals are . . . and I said what happens if one of these cows get away and gets to the neighbour across the road with this human gene in it. Alright, next minute they start having issues from this animal with the gene in it. They end up at the works, and they end up in our supermarkets. I could go along and say is it my gene in the cow or yours. I then go and buy meat, we just don't know. You might go and buy you a steak and say it happens to come from one of these animals that ended up in the works that ended up in our supermarkets. You could say to me you taste nice today . . . you know . . . they cracked up when I said that, and another comment was that the farmer gets up in the morning to milk his cow and the cow says to him 'pull the left side of my tit and you'll get milk pull the right side of my tit and you'll get medicine . . . so . . . I don't like the idea if mixing them . . . there's nothing wrong with animals its what we make them to be that's the problem . . . *Māori* we need to be connected . . . have input into these decisions . . . strive for balance . . . *(Māori kaitiaki, Oparau* river community case study, 2003).	<u>growth versus conservation</u>

APPENDICES 3.5na,b   The discourse analysis set of point's guideline form - further details

APPENDIX 3.5na   The discourse analysis set of point's guideline form/side A - further details

SIDE A			
Materialism (M) theory-categorisations of the value continuum			
And/Or - materialism growth over conservation (M-GroC)			
aroha/M-GroC	n/a		a	
kaitiaki/M-GroC	n/a		a	
*kotahitanga/*M-GroC	n/a		a	
manaaki/M-GroC	n/a		a	
mauri/M-GroC	n/a		a	
wāhi tapu /M-GroC	n/a		a	
wairua/M-GroC	n/a		a	
whakapapa/M-GroC	n/a		a	
whānau/M-GroC	n/a		a	
And/Or - materialism growth versus conservation (M-GrvC)			
aroha/M-GrvC	n/a		a	
kaitiaki/M-GrvC	n/a		a	
*kotahitanga/*M-GrvC	n/a		a	
manaaki/M-GrvC	n/a		a	
mauri/M-GrvC	n/a		a	
wāhi tapu /M-GrvC	n/a		a	
wairua/M-GrvC	n/a		a	
whakapapa/M-GrvC	n/a		a	
whānau/M-GrvC	n/a		a	
whānau/M-GrvC	n/a		a	
And/Or - materialism growth over conservation (M-GroC)			
anthropocentrism/M-GroC	n/a		a	
biological determinism/ M-GroC	n/a		a	
dualism/M-GroC	n/a		a	
economic determinism/M-GroC	n/a		a	
empiricism/M-GroC	n/a		a	
individualism/M-GroC	n/a		a	
mechanism/M-GroC	n/a		a	
reductionism/M-GroC	n/a		a	

APPENDIX 3.5na   The discourse analysis set of point's guideline form/side A - further details (continued)

SIDE A				
Materialism (M) theory-categorisations of the value continuum				
And/Or - materialism growth versus conservation (M-GrvC)				
anthropocentrism/M-GrvC	n/a		a	
biological determinism/ M-GrvC	n/a		a	
dualism/M-GrvC	n/a		a	
economic determinism/M-GrvC	n/a		a	
empiricism/M-GrvC	n/a		a	
individualism/M-GrvC	n/a		a	
mechanism/M-GrvC	n/a		a	
reductionism/M-GrvC	n/a		a	

APPENDIX 3.5nb   The discourse analysis set of point's guideline form/side B - further details

SIDE B			
Post-materialist green (PG) theory-categorisations of the value continuum			
And/Or - post-materialist conservation over growth (PG-CoGr)			
aroha/PG-CoGr	n/a		a
kaitiaki/PG-CoGr	n/a		a
kotahitanga/ PG-CoGr	n/a		a
manaaki/ PG-CoGr	n/a		a
mauri/ PG-CoGr	n/a		a
wāhi tapu /PG-CoGr	n/a		a
wairua/ PG-CoGr	n/a		a
whakapapa/ PG-CoGr	n/a		a
whānau/ PG-CoGr	n/a		a
And/Also - post-materialist conservation versus growth (PG-CvGr)			
aroha/PG-CvGr	n/a		a
kaitiaki/ PG-CvGr	n/a		a
*kotahitanga/*PG-CvGr	n/a		a
manaaki/ PG-CvGr	n/a		a
mauri/ PG-CvGr	n/a		a
wāhi tapu /PG-CvGr	n/a		a
wairua/PG-CvGr	n/a		a
whakapapa/PG-CvGr	n/a		a
whānau/PG-CvGr	n/a		a
whānau/PG-CvGr	n/a		a
And/Or - post-materialist conservation over growth (PG-CoGr)			
anthropocentrism/PG-CoGr	n/a		a
biological determinism/PG-CoGr	n/a		a
dualism/PG-CoGr	n/a		a
economic determinism/PG-CoGr	n/a		a
empiricism/PG-CoGr	n/a		a
individualism/PG-CoGr	n/a		a
mechanism/PG-CoGr	n/a		a
reductionism/PG-CoGr	n/a		a

APPENDIX 3.5nb   The discourse analysis set of point's guideline form/side B - further details (continued)

SIDE B			
Post-materialist green (PG) theory-categorisations of the value continuum			
And/Also - post-materialist conservation versus growth (PG-CvGr)			
anthropocentrism/PG-CvGr	n/a		a
biological determinism/ PG-CvGr	n/a		a
dualism/PG-CvGr	n/a		a
economic determinism/PG-CvGr	n/a		a
empiricism/PG-CvGr	n/a		a
individualism/PG-CvGr	n/a		a
mechanism/PG-CvGr	n/a		a
reductionism/PG-CvGr	n/a		a

APPENDICES 3.5oa,b   The research interview questionnaires of the study - further details
APPENDICES 3.5oai,ii,ii   The research interview questionnaires of the *Māori* river community case studies - further details
APPENDIX 3.5oai   Case example of the specific river user research interview questionnaire/*Waitahanui* river community case study - further details[96]

Thank you again for your time and interest. In the interview, I will be asking about the place of *Māori tikanga* and western science in the local practice of *Waitahanui* recreational trout fishing.

This is looked at in three sections of the interview on the background (i), activities of local practice (ii) and your own viewpoint (iii).

<u>i. Section One</u> - *Background*[97]

I'd like to begin my interview by asking about the background of the current situation from which you practice as a recreational trout fishing river user or *kaitiaki* of the *Waitahanui* river.

ia.   With respect to the *Māori* cultural traditions about the *Waitahanui* river and surrounding environment that have been passed down through the generations of our tribe -

- What *tikanga* have been relevant in our *Māori* cultural traditions about the *Waitahanui* river and surrounding environment?................................ ....
- Why have these customs been important?.. ....
- How have they been practiced by our traditional *kaitiaki*?....................... ....
- Have you any other comments?.. ....

ib.   Since the *Waitahanui* river and surrounding environment became a trout fishery and recreational trout fishing took off -

- What *tikanga* have remained relevant?... ....
- Why have these customs been important?... ....

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[96] In *Appendix 3.5oai,* I provide a case example of the specific river user questionnaire in the study; that being, the *Waitahanui* river community case study.

[97] I note here that the background section of the interview builds on my prior backgrounding work in the household survey and *Māori* research participant information forms of the study. For further details see *Appendix 3.5bi* and *Appendix 3.5c*.

- How have they been practiced by our contemporary *kaitiaki*?.................
  ....
- Have you any other comments?..
  ....
- What aspects of western science have become relevant?.........................
  ....
- Why have these aspects been important?...
  ....
- How have they been practiced by our contemporary *kaitiaki?*.................
  ....
- Have you any other comments?..
  ....

ii. Section Two - *Practice*

I'd like to now ask about the place of *tikanga* and western science in the activities which you practice in recreational trout fishing.

iia.   In the preparation stage of your practice of recreational trout fishing -

- What are the activities which you practice?...
  ....
- Which activities relate to *tikanga* and/or western science?.......................
  ....
- Why are they practiced?..
  ....
- How are they practiced?..
  ....
- When are they practiced?...
  ....
- What purposes do they serve?...
  ....
- Have you any other comments?..
  ....

iib.   In the fish catching stage of your practice of recreational trout fishing -

- What are the activities which you practice?...
  ....
- Which activities relate to *tikanga* and/or western science?.......................
  ....
- Why are they practiced?..
  ....
- How are they practiced?..
  ....

- When are they practiced?..
....
- What purposes do they serve?...
....
- Have you any other comments?...
....

iic.   In the tidy up/finishing stage of your practice of recreational trout fishing -

- What are the activities which you practice?..
....
- Which activities relate to *tikanga* and/or western science?......................
....
- Why are they practiced?...
....
- How are they practiced?...
....
- When are they practiced?..
....
- What purposes do they serve?...
....
- Have you any other comments?...
....

iii. Section Three - *Viewpoint*

To finish, I'd like to ask about your viewpoint on the place of *tikanga* and western science in current activities being practiced by recreational trout fishing users on the *Waitahanui* river and surrounding environment.

iiia.   In relation to the use/non-use of *tikanga* -

- What is your viewpoint on the activities being practiced?...
....
- What is your viewpoint on why they are being practiced?...
....
- What is your viewpoint on how they are being practiced?...
....
- What is your viewpoint on when are they being practiced?...
....
- What is your viewpoint on the purposes they serve?..
....
- Have you any other comments?...
....

iiib.   In relation to the use/non-use of western science -

- What is your viewpoint on the activities being practiced?..
....
- What is your viewpoint on why they are being practiced?..
....
- What is your viewpoint on how they are being practiced?..
....
- What is your viewpoint on when are they being practiced?..
....
- What is your viewpoint on the purposes they serve?..
....
- Have you any other comments?..
....

APPENDIX 3.5oaii   Case example of the non-specific river user research interview questionnaire/*Harataunga* river community case study - further details[98]

Thank you again for your time and interest. In the interview, I will be asking about the place of *Māori tikanga* and western science in the local practice of the *Harataunga* recreational river use.

This is looked at in three sections of the interview on the background (i), activities of local practice (ii) and your own viewpoint (iii).

i. Section One - *Background*[99]

I'd like to begin my interview by asking about the background of the current situation from which you practice as a recreational river user or *kaitiaki* of the *Harataunga* river.

ia.   With respect to the *Māori* cultural traditions about the *Harataunga* river and surrounding environment that have been passed down through the generations of our tribe -

- What *tikanga* have been relevant in our *Māori* cultural traditions about the *Harataunga* river and surrounding environment?...............................
....
- Why have these customs been important?..
....
- How have they been practiced by our traditional *kaitiaki*?......................
....
- Have you any other comments?..
....

ib.   Since our people settled here with *Pākehā;* and *Māori* became engulfed by European culture, technology and western science -

- What *tikanga* have remained relevant?...
....
- Why have these customs been important?..
....
- How have they been practiced by our contemporary *kaitiaki*?.................
....
- Have you any other comments?..
....

---

[98] In *Appendix 3.5oaii,* I provide a case example of the non-specific river user questionnaire in the study; that being, the *Harataunga* river community case study.

[99] I note here that the background section of the interview builds on my prior backgrounding work in the household survey and *Māori* research participant information forms of the study. For further details see *Appendix 3.5bi* and *Appendix 3.5c.*

- What aspects of western science have become relevant?..........................
  ....
- Why have these aspects been important?..
  ....
- How have they been practiced by our contemporary *kaitiaki?*.................
  ....
- Have you any other comments?...
  ....

ii. Section Two - *Practice*

I'd like to now ask about the place of *tikanga* and western science in the activities which you practice in *Harataunga* recreational river use.

iia.   In the preparation stage of your practice of *Harataunga* recreational river use -

- What are the activities which you practice?..
  ....
- Which activities relate to *tikanga* and/or western science?.......................
  ....
- Why are they practiced?...
  ....
- How are they practiced?...
  ....
- When are they practiced?..
  ....
- What purposes do they serve?..
  ....
- Have you any other comments?..
  ....

iib.   In the implementation stage of your practice of *Harataunga* recreational river use -

- What are the activities which you practice?..
  ....
- Which activities relate to *tikanga* and/or western science?.......................
  ....
- Why are they practiced?...
  ....
- How are they practiced?...
  ....
- When are they practiced?..
  ....
- What purposes do they serve?..
  ....
- Have you any other comments?...
  ....

iic.　　In the tidy up/finishing stage of your practice of *Harataunga* recreational river use -

- What are the activities which you practice?...
....
- Which activities relate to *tikanga* and/or western science?......................
....
- Why are they practiced?...
....
- How are they practiced?..
....
- When are they practiced?...
....
- What purposes do they serve?..
....
- Have you any other comments?..
....

iii. Section Three - *Viewpoint*

To finish, I'd like to ask about your viewpoint on the place of *tikanga* and western science in current activities being practiced by recreational river users on the *Harataunga* river and surrounding environment.

iiia.　　In relation to the use/non-use of *tikanga* -

- What is your viewpoint on the activities being practiced?...
....
- What is your viewpoint on why they are being practiced?...
....
- What is your viewpoint on how they are being practiced?...
....
- What is your viewpoint on when are they being practiced?...
....
- What is your viewpoint on the purposes they serve?...
....
- Have you any other comments?..
....

iiib.　　In relation to the use/non-use of western science -

- What is your viewpoint on the activities being practiced?...
....

- What is your viewpoint on why they are being practiced?... ....
- What is your viewpoint on how they are being practiced?... ....
- What is your viewpoint on when are they being practiced?... ....
- What is your viewpoint on the purposes they serve?... ....
- Have you any other comments?... ....

APPENDIX 3.5oaiii   Case example of the *Pākehā* river user research interview questionnaire/*Oparau* river community case study - further details[100]

Thank you again for your time and interest. In the interview, I will be asking about the place of *Māori tikanga* and western science in the local practice of the *Oparau* agricultural river use.

This is looked at in three sections of the interview on the background (i), activities of local practice (ii) and your own viewpoint (iii).

i. Section One - *Background*[101]

I'd like to begin my interview by asking about the background of the current situation from which you practice as an agricultural river user of the *Oparau* river.

ia.   With respect to the *Māori* cultural traditions about the *Oparau* river and surrounding environment that have been passed down through the generations our tribe -

- What traditional customs have been relevant in *Māori* cultural traditions about the *Oparau* river and surrounding environment?............................ ....
- Why have these customs been important?... ....
- How have they been practiced?.. ....
- Have you any other comments?... ....

ib.   Since *Pākehā* settled here with *Māori,* bringing the European culture, technology and western science -

- What *Māori* customs have remained relevant?...................................... ....
- Why have these customs been remained important?................................ ....
- How have they been practiced?... ....
- Have you any other comments?... ....

---

[100] In *Appendix 3.5oaiii,* I provide a case example of the *Pākehā* river user questionnaire in the study; that being, the *Oparau* river community case study.

[101] I note here that the background section of the interview builds on my prior backgrounding work in the household survey and *Māori* research participant information forms. For further details see *Appendix 3.5bi* and *Appendix 3.5c.*

- What aspects of western science have become relevant?.........................
....
- Why have these aspects been important?..
....
- How have they been practiced?...
....
- Have you any other comments?..
....

ii. Section Two - *Practice*

I'd like to now ask about the place of *tikanga* and western science in the activities which you practice in *Oparau* agricultural river use.

iia.   In the preparation stage of your practice of *Oparau* agricultural river use -

- What are the activities which you practice?...
....
- Which activities relate to *tikanga* and/or western science?......................
....
- Why are they practiced?..
....
- How are they practiced?..
....
- When are they practiced?...
....
- What purposes do they serve?..
....
- Have you any other comments?..
....

iib.   In the implementation stage of your practice of *Oparau* agricultural river use -

- What are the activities which you practice?...
....
- Which activities relate to *tikanga* and/or western science?......................
....
- Why are they practiced?..
....
- How are they practiced?..
....
- When are they practiced?...
....
- What purposes do they serve?..
....
- Have you any other comments?..
....

iic.   In the tidy up/finishing stage of your practice of *Oparau* agricultural river use -

- What are the activities which you practice?..
  ....
- Which activities relate to *tikanga* and/or western science?......................
  ....
- Why are they practiced?..
  ....
- How are they practiced?..
  ....
- When are they practiced?..
  ....
- What purposes do they serve?...
  ....
- Have you any other comments?..
  ....

iii. Section Three - *Viewpoint*

To finish, I'd like to ask about your viewpoint on the place of *tikanga* and western science in current activities being practiced by agricultural river users on the *Oparau* river and surrounding environment.

iiia.   In relation to the use/non-use of *tikanga* -

- What is your viewpoint on the activities being practiced?..
  ....
- What is your viewpoint on why they are being practiced?..
  ....
- What is your viewpoint on how they are being practiced?..
  ....
- What is your viewpoint on when are they being practiced?..
  ....
- What is your viewpoint on the purposes they serve?...
  ....
- Have you any other comments?..
  ....

iiia.   In relation to the use/non-use of western science -

- What is your viewpoint on the activities being practiced?..
  ....

- What is your viewpoint on why they are being practiced?..
....

- What is your viewpoint on how they are being practiced?..
....

- What is your viewpoint on when are they being practiced?..
....

- What is your viewpoint on the purposes they serve?..
....

- Have you any other comments?..
....

APPENDICES 3.5obi,ii,iii   The research interview questionnaires of the environmental authority case studies - further details
APPENDIX 3.5obi   Case example of the policy maker research interview questionnaire/*MfE* - further details[102]

Thank you again for your time and interest. I understand that most of the policy work has now been completed on the national environmental performance indicator (EPI) programme. Therefore, in the interview, I will be asking about the place that *Māori tikanga* and western science previously held within the EPI policy work that was undertaken.

This is looked at in three sections of the interview on the background (i), activities of policy development (ii) and your own viewpoint (iii).

<u>i. Section One</u> - *Background*[103]

I'd like to begin my interview by asking about the background development of the EPI policy making regime. This refers to the time period from 1990 and ending at around 1998, when *Māori* input commenced.

ia.   Regarding the place of western science and *Māori tikanga* in the development of the 1990 - 1998 policy making approach -

- What aspects of western science were considered relevant?....................
    …………………………………………………………………………………
- Why were these aspects of western science considered important?...
    ....
- How were they developed?..
    ....
- When were they developed?..
    ....
- Have you any other comments?...
    ....

- What *Māori tikanga* were considered relevant?......................................
    …………………………………………………………………………………
- Why were these *Māori tikanga* considered important?...........................
    ....
- How were they developed?..
    ....

---

[102] In *Appendix 3.5obi,* I provide a case example of the policy maker questionnaire in the study; that being, the Ministry for the Environment.
[103] I note here that the background section of the interview builds on my prior backgrounding work in the environmental authority research participant information form. For further details see *Appendix 3.5bii.*

- When were they developed?..
  ....
- Have you any other comments?..
  ....

ib.   Regarding the place of western science and *Māori tikanga* in the development of the 1990 - 1998 policy making decisions -

- What aspects of western science were considered relevant?....................
  …………………………………………………………………………
- Why were these aspects of western science considered important?..
  ....
- How were they developed?..
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

- What *Māori tikanga* were considered relevant?......................................
  …………………………………………………………………………
- Why were these *Māori tikanga* considered important?...........................
  ....
- How were they developed?..
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

ic.   Regarding the place of western science and *Māori tikanga* in the development of the 1990 - 1998 policy making activities -

- What aspects of western science were considered relevant?....................
  …………………………………………………………………………
- Why were these aspects of western science considered important?...
  ....
- How were they developed?..
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

- What *Māori tikanga* were considered relevant?......................................
  …………………………………………………………………………

- Why were these *Māori tikanga* considered important?............................
  ....
- How were they developed?...
  ....
- When were they developed?...
  ....
- Have you any other comments?...
  ....

ii. Section Two - *Practice*

I'd like to now ask about the place of *Māori tikanga* and western science in your practice of EPI policy making. This refers to the time period commencing from 1998 till around 2001 when *Māori* input was concluded.

iia.   Regarding the place of western science and *Māori tikanga* in the development of the 1998 - 2001 policy making approach -

- What aspects of western science were considered relevant?....................
  ………………………………………………………………………………
- Why were these aspects of western science considered important?..
  ....
- How were they developed?...
  ....
- When were they developed?...
  ....
- Have you any other comments?...
  ....

- What *Māori tikanga* were considered relevant?.......................................
  ………………………………………………………………………………
- Why were these *Māori tikanga* considered important?............................
  ....
- How were they developed?...
  ....
- When were they developed?...
  ....
- Have you any other comments?...
  ....

iib.   Regarding the place of western science and *Māori tikanga* in the development of the 1998 - 2001 policy making decisions -

- What aspects of western science were considered relevant?....................
  ………………………………………………………………………………

- Why were these aspects of western science considered important?...
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

- What *Māori tikanga* were considered relevant?.......................................
……………………………………………………………………………
- Why were these *Māori tikanga* considered important?.........................
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

iic.   Regarding the place of western science and *Māori tikanga* in the development of the 1998 - 2001 policy making activities -

- What aspects of western science were considered relevant?.....................
……………………………………………………………………………
- Why were these aspects of western science considered important?...
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

- What *Māori tikanga* were considered relevant?.......................................
……………………………………………………………………………
- Why were these *Māori tikanga* considered important?.........................
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

iii. Section Three - *Viewpoint*

To finish, I'd like to now ask about your viewpoint on the place of *Māori tikanga* and western science in the development of EPI policy making. This refers to the time period commencing from 1990 till 2003/today, whereby the indicators were developed.

iiia.   Regarding the place of western science and *Māori tikanga* in the development of the 1990 - 2003 policy making approach -

- What is your viewpoint on the aspects of western science that were considered relevant?..
  ....
- What is your viewpoint on why these aspects of western science were considered important?..
  ....
- What is your viewpoint on how they were developed?............................
  ....
- What is your viewpoint on when were they developed?...........................
  ....
- Have you any other comments?..
  ....

- What is your viewpoint on the *Māori tikanga* that were considered relevant?..
  ....
- What is your viewpoint on why were these *Māori tikanga* considered important?..
  ....
- What is your viewpoint on how they were developed?............................
  ....
- What is your viewpoint on when were they developed?..........................
  ....
- Have you any other comments?..
  ....

iiib.   Regarding the place of western science and *Māori tikanga* in the development of the 1990 - 2003 policy making decisions -

- What is your viewpoint on the aspects of western science that were considered relevant?..
  ....
- What is your viewpoint on why these aspects of western science were considered important?..
  ....
- What is your viewpoint on how they were developed?............................
  ....
- What is your viewpoint on when they were developed?...........................
  ....

- Have you any other comments?...
....

- What is your viewpoint on the *Māori tikanga* that were considered relevant?...
…………………………………………………………………………………

- What is your viewpoint on why these *Māori tikanga* were considered important?...
....

- What is your viewpoint on how were they developed?............................
....

- What is your viewpoint on when they were developed?..........................
....

- Have you any other comments?...
....

iiic.   Regarding the place of western science and *Māori tikanga* in the 1990 - 2003 policy making activities -

- What is your viewpoint on the aspects of western science that were considered relevant?...
…………………………………………………………………………………

- What is your viewpoint on why these aspects of western science were considered important?...
....

- What is your viewpoint on how they were developed?............................
....

- What is your viewpoint on when were they developed?..........................
....

- Have you any other comments?...
....

- What is your viewpoint on the *Māori tikanga* that were considered relevant?...
…………………………………………………………………………………

- What is your viewpoint on why were these *Māori tikanga* considered important?...
....

- What is your viewpoint on how they were developed?............................
....

- What is your viewpoint on when they were developed?..........................
....

- Have you any other comments?...
....

APPENDIX 3.5obii   Case example of the planner research interview questionnaire/*TDC* - further details[104]

Thank you again for your time and interest. I understand that most of the planning work has now been completed on the district plan review regarding indicator development. Therefore, in the interview, I will be asking about the place that *Māori tikanga* and western science previously held within the TDC planning work that was undertaken.

This is looked at in three sections of the interview on the background (i), activities of planning (ii) and your own viewpoint (iii).

i. Section One - *Background*[105]

I'd like to begin my interview by asking about the background development of the TDC plan making regime. This refers to the time period from 1991 and ending at around 2001, whereby *Māori* input was built in under the *Māori,* environmental monitoring and sustainability provisions of the *RMA 1991.*

ia.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 2001 planning approach -

- What aspects of western science were considered relevant?....................
……………………………………………………………………………
- Why were these aspects of western science considered important?...
....
- How were they developed?..
....
- When were they developed?...
....
- Have you any other comments?..
....

- What *Māori tikanga* were considered relevant?.......................................
……………………………………………………………………………
- Why were these *Māori tikanga* considered important?............................
....
- How were they developed?..
....
- When were they developed?...
....
- Have you any other comments?..
....

---

[104] In *Appendix 3.5obii,* I provide a case example of the planner research participant questionnaire in the study; that being, the *Taupō* District Council.

[105] I note here that the background section of the interview builds on my prior backgrounding work in the environmental authority research participant information form. For further details see *Appendix 3.5bii.*

ib.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 2001 planning decisions -

- What aspects of western science were considered relevant?....................
  …………………………………………………………………………
- Why were these aspects of western science considered important?..
  ....
- How were they developed?...
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

- What *Māori tikanga* were considered relevant?..
  …………………………………………………………………………
- Why were these *Māori tikanga* considered important?.............................
  ....
- How were they developed?...
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

ic.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 2001 planning activities -

- What aspects of western science were considered relevant?....................
  …………………………………………………………………………
- Why were these aspects of western science considered important?...
  ....
- How were they developed?...
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

- What *Māori tikanga* were considered relevant?..
  …………………………………………………………………………
- Why were these *Māori tikanga* considered important?............................
  ....
- How were they developed?...
  ....
- When were they developed?..
  ....

- Have you any other comments?...

  ....

ii. Section Two - *Practice*

I'd like to now ask about the place of *tikanga* and western science in your practice of TDC planning with regard to indicator development. This refers to the time period from 2001 till around 2003, when *Māori* input was concluded.

iia.   Regarding the place of western science and *Māori tikanga* in the development of the 2001 - 2003 planning approach -

- What aspects of western science were considered relevant?.....................
  ……………………………………………………………………………………
- Why were these aspects of western science considered important?...
  ....
- How were they developed?..
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

- What *Māori tikanga* were considered relevant?.......................................
  ……………………………………………………………………………………
- Why were these *Māori tikanga* considered important?............................
  ....
- How were they developed?..
  ....
- When were they developed?..
  ....
- Have you any other comments?...
  ....

iib.   Regarding the place of western science and *Māori tikanga* in the development of the 2001 - 2003 planning decisions -

- What aspects of western science were considered relevant?.....................
  ……………………………………………………………………………………
- Why were these aspects of western science considered important?...
  ....
- How were they developed?..
  ....
- When were they developed?...
  ....

- Have you any other comments?...
....

- What *Māori tikanga* were considered relevant?.......................................
………………………………………………………………………………

- Why were these *Māori tikanga* considered important?.............................
....

- How were they developed?..
....

- When were they developed?...
....

- Have you any other comments?...
....

iic.   Regarding the place of western science and *Māori tikanga* in the development of the 2001 - 2003 planning activities -

- What aspects of western science were considered relevant?....................
………………………………………………………………………………

- Why were these aspects of western science considered important?...
....

- How were they developed?..
....

- When were they developed?...
....

- Have you any other comments?...
....

- What *Māori tikanga* were considered relevant?.......................................
………………………………………………………………………………

- Why were these *Māori tikanga* considered important?.............................
....

- How were they developed?..
....

- When were they developed?...
....

- Have you any other comments?...
....

iii. Section Three - *Viewpoint*

To finish, I'd like to now ask about your viewpoint on the place of *Māori tikanga* and western science in the development of TDC planning. This refers to the time period commencing from 1990 till 2003/today, whereby the indicators were developed.

iiia.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 2003 planning approach -

- What is your viewpoint on the aspects of western science that were considered relevant?...
  …………………………………………………………………………….
- What is your viewpoint on why these aspects of western science wereconsidered important?...
  ....
- What is your viewpoint on how they were developed?............................
  ....
- What is your viewpoint on when were they developed?...........................
  ....
- Have you any other comments?...
  ....

- What is your viewpoint on the *Māori tikanga* that were considered relevant?...
  …………………………………………………………………………….
- What is your viewpoint on why were these *Māori tikanga* considered important?...
  ....
- What is you viewpoint on how were they developed?...
  ....
- What is you viewpoint on when were they developed?...
  ....
- Have you any other comments?...
  ....

iiib. Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 2003 planning decisions -

- What is your viewpoint on the aspects of western science that were considered relevant?...
  …………………………………………………………………………….
- What is your viewpoint on why these aspects of western science were considered important?...
  ....
- What is your viewpoint on how they were developed?............................
  ....
- What is your viewpoint on when they were developed?...........................
  ....
- Have you any other comments?...
  ....

- What is your viewpoint on the *Māori tikanga* that were considered relevant?...
  …………………………………………………………………………….

- What is your viewpoint on why these *Māori tikanga* were considered important?...

- What is your viewpoint on how were they developed?...

- What is your viewpoint on when they were developed?...

- Have you any other comments?...

iiic. Regarding the place of western science and *Māori tikanga* in the 1991 - 2003 planning activities -

- What is your viewpoint on the aspects of western science that were considered relevant?...
....

- What is your viewpoint on why these aspects of western science were considered important?...

- What is your viewpoint on how they were developed?...

- What is your viewpoint on when they were developed?..

- Have you any other comments?...

- What is your viewpoint on the *Māori tikanga* that were considered relevant?..
....

- What is your viewpoint on why these *Māori tikanga* were considered important?...

- What is your viewpoint on how were they developed?...

- What is your viewpoint on when they were developed?...

- Have you any other comments?..

APPENDIX 3.5obiii   Case example of the *iwi* liaison officer research interview questionnaire/ *EW* - further details[106]

Thank you again for your time and interest. I understand that most of the *iwi* liaison component of regional environmental governance and management work has now been completed on the EW environmental performance indicator (EPI) programme. Therefore, in the interview, I will be asking about the place that *Māori tikanga* and western science previously held within the *iwi* liaison component of the EW EPI development work that was undertaken.

This is looked at in three sections of the interview on the background (i), activities of policy development (ii) and your own viewpoint (iii).

i. Section One - *Background*[107]

    I'd like to begin my interview by asking about the background development of the *iwi* liaison component of EW EPI development. This refers to the time period from 1991 and ending at around 1998, whereby *Māori* input was built in under the *Māori,* environmental monitoring and sustainability provisions of the *RMA 1991.*

ia.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 1998 *iwi* liaison approach -

- What aspects of western science were considered relevant?....................
- Why were these aspects of western science considered important?..
- How were they developed?..
  ....
- When were they developed?..
  ....
- Have you any other comments?...

- What *Māori tikanga* were considered relevant?.......................................
- Why were these *Māori tikanga* considered important?...........................
- How were they developed?..
- When were they developed?..
- Have you any other comments?...

ib.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 1998 *iwi* liaison decisions -

- What aspects of western science were considered relevant?....................
  ....
- Why were these aspects of western science considered important?...
  ....
- How were they developed?..
  ....

---

[106] In *Appendix 3.5obii,* I provide a case example of the *iwi* liaison research participant questionnaire in the study; that being, Environment *Waikato.*

[107] I note here that the background section of the interview builds on my prior backgrounding work in the environmental authority research participant information form. For further details see *Appendix 3.5bii.*

- When were they developed?...
....
- Have you any other comments?..
....

- What *Māori tikanga* were considered relevant?...
....
- Why were these *Māori tikanga* considered important?............................
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?..
....

ic.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 1998 *iwi* liaison activities -

- What aspects of western science were considered relevant?....................
....
- Why were these aspects of western science considered important?...
- How were they developed?...
....
- When were they developed?...
- Have you any other comments?..
- What *Māori tikanga* were considered relevant?...
....
- Why were these *Māori tikanga* considered important?............................
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?..
....

ii. Section Two - *Practice*
I'd like to now ask about the place of *tikanga* and western science in your practice of the *iwi* liaison component of EW EPI development. This refers to the time period commencing from 1998 till around 2001 when *Māori* input was concluded.

iia.   Regarding the place of western science and *Māori tikanga* in the development of the 1998 - 2001 *iwi* liaison approach -
- What aspects of western science were considered relevant?....................
....
- Why were these aspects of western science considered important?...

- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

- What *Māori tikanga* were considered relevant?......................................
…………………………………………………………………………
- Why were these *Māori tikanga* considered important?...........................
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

iib.   Regarding the place of western science and *Māori tikanga* in the development of the 1998 - 2001 *iwi* liaison decisions -
- What aspects of western science were considered relevant?....................
…………………………………………………………………………
- Why were these aspects of western science considered important?...
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

- What *Māori tikanga* were considered relevant?......................................
…………………………………………………………………………
- Why were these *Māori tikanga* considered important?...........................
....
- How were they developed?...
....
- When were they developed?...
....
- Have you any other comments?...
....

iic.   Regarding the place of western science and *Māori tikanga* in the development of the 1998 - 2001 *iwi* liaison activities -
- What aspects of western science were considered relevant?....................
…………………………………………………………………………
- Why were these aspects of western science considered important?...
....
- How were they developed?...

- When were they developed?...
  ....
- Have you any other comments?..

- What *Māori tikanga* were considered relevant?.......................................
- Why were these *Māori tikanga* considered important?............................
- How were they developed?...
  ....
- When were they developed?...
  ....
- Have you any other comments?..
  ....

iii. Section Three - *Viewpoint*

To finish, I'd like to now ask about your viewpoint on the place of *tikanga* and western science in the development of the *iwi* liaison component of EW EPI development. This refers to the time period commencing from 1991 till 2003/today whereby the indicators were developed.

iiia.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 2003 *iwi* liaison approach -

- What is your viewpoint on the aspects of western science that were considered relevant?...
  ………………………………………………………………………………
- What is your viewpoint on why these aspects of western science were considered important?...
  ....
- What is your viewpoint on how they were developed?.............................
  ....
- What is your viewpoint on when they were developed?...........................
  ....
- Have you any other comments?..
  ....

- What is your viewpoint on the *Māori tikanga* that were considered relevant?...
- What is your viewpoint on why these *Māori tikanga* were considered important?..
- What is your viewpoint on how were they developed?.............................
- What is your viewpoint on when they were developed?...........................
- Have you any other comments?..
  ....

iiib.   Regarding the place of western science and *Māori tikanga* in the development of the 1991 - 2003 *iwi* liaison decisions -

- What is your viewpoint on the aspects of western science that were considered relevant?...
  ………………………………………………………………………………

- What is your viewpoint on why these aspects of western science were considered important?...

- What is your viewpoint on how they were developed?...

- What is your viewpoint on when they were developed?..

- Have you any other comments?...

- What is your viewpoint on the *Māori tikanga* that were considered relevant?..

- What is your viewpoint on why these *Māori tikanga* were considered important?...

- What is your viewpoint on how were they developed?............................
- What is your viewpoint on when they were developed?..........................
  ....
- Have you any other comments?...

iiic.   Regarding the place of western science and *Māori tikanga* in the 1991 - 2003 *iwi* liaison activities -

- What is your viewpoint on the aspects of western science that were considered relevant?..

- What is your viewpoint on why these aspects of western science were considered important?...

- What is your viewpoint on how they were developed?...

- What is your viewpoint on when they were developed?..

- Have you any other comments?...

- What is your viewpoint on the *Māori tikanga* that were considered relevant?..

- What is your viewpoint on why these *Māori tikanga* were considered important?...

- What is your viewpoint on how were they developed?............................
- What is your viewpoint on when they were developed?..........................
- Have you any other comments?...

Appendices 3.5p,q,r,s   Macro And/Also methodologically - background information

Appendix 3.5p   Value continuum subtleties methodologically - further details

In my macro nuanced problem solving methodologically, And/Or and And/Also (And/Or-And/Also) are introduced from my nuanced problem solving on the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum; and *Māori* reflexivity, starting theoretically and finishing theory-methodologically.

- Theoretical nuanced problem solving of the value continuum of And/Or-And/Also - Māori reflexivity

Previously, the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum encompassed my And/Or-And/Also nuanced problem solving on *Māori* reflexivity *(Prelude* and *Chapters 1 - 2).* In short, the nuanced reality of *Māori* reflexivity was theorised by reference to the *Māori, ngā tikanga tūpato* conservation and use values of *aroha, kaitiaki, kotahitanga, manaaki*, *mauri, wāhi tapu, wairua, whakapapa* and *whānau,* and the western science conservation and use values of anthropocentrism, biological determinism, dualism, economic determinism, empiricism, individualism, mechanism and reductionism *(Prelude* and *Chapters 1 - 2).*

- The contesting discourses of growth and conservation

At the crux of my theorising of And/Or and And/Also were the contesting discourses of growth and conservation underpinning the value continuum, from (C) conservation at one end, with the use values of (Gr) growth at the other end. My schematic portrayal is provided in *Figure 3.5pi.*

Such And/Also-And/Or nuanced problem solving theorised synergy in the comparison of the conflict and convergence of *Māori, ngā tikanga tūpato* and western scientific conservation and use values.   Value conflict of the differences/distinctions between *ngā tikanga tūpato* and western science, refers to And/Or. In the value continuum, this was articulated by reference to the

value exemplars of (C) conservation over (Gr) growth (CoGr) and (Gr) growth over (C) conservation (GroC). Value convergence of the similarities/affinities between *ngā tikanga tūpato* and western science, referred to And/Also. In the value continuum, this was articulated by reference to the value exemplars of (C) conservation versus (Gr) growth (CvGr) and (Gr) growth versus (C) conservation (GrvC). Overall, as conservation and growth are under continual transition in synergistic value change, they were theorised in the underpinning And/Or-And/Also nuanced reality of the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum.
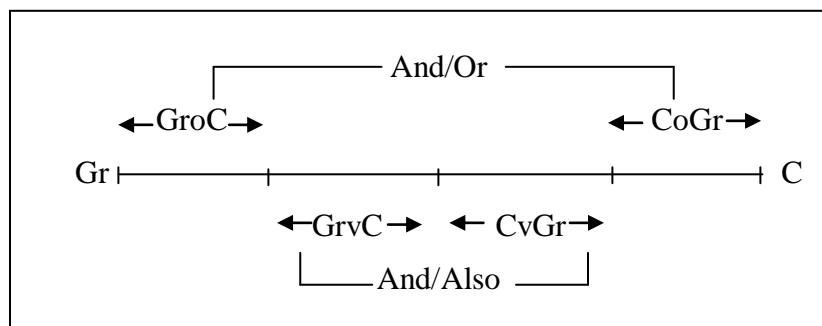
Figure 3.5pi   Value continuum of And/Or and And/Also - schema

- The macro modernity value continuum

Most relevantly, the And/Or-And/Also nuanced reality of synergy is located at the high abstracted thought level of modernity *(Chapter 2).* This brings the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum into macro modernity, termed the 'macro modernity value continuum' of the study.

A brief review of the macro modernity value continuum is provided. The growth (Gr) value exemplars of And/Or-And/Also pertained to hegemonic western capitalism, as conceptualised by reference to the term 'materialism' (M). At the And/Or-growth value exemplar of growth over conservation (GroC), materialism (M) is located at the highest point of hegemonic growth (M-GroC). These values of western science and *ngā tikanga tūpato* inform the increased degradation and exploitation of the environment. In the And/Also-growth exemplar of growth versus conservation (GrvC), materialism (M) is

located at a declining point of hegemonic growth (M-GrvC). These values of western science and *ngā tikanga tūpato* inform the declining degradation and exploitation of the environment.

The conservation (C) value exemplars of And/Or-And/Also pertain to counter-hegemonic cultural and ecological environmentalism, as conceptualised by reference to the term 'post-materialist green' (PG). In the And/Or-conservation exemplar of conservation over growth (CoGr), post-materialist green (PG) is located at the highest point of counter-hegemonic conservationism (PG-CoGr). These values of western science and *ngā tikanga tūpato* inform the increased preservation and conservation of the environment. In the And/Also-conservation exemplar of conservation versus growth (CvGr), post-materialist green (PG) is located at a declining point of counter-hegemonic conservation (PG-CvGr). These values of western science and *ngā tikanga tūpato* inform the declining preservation and conservation of the environment.

Altogether, my high abstracted nuanced problem solving of the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum enabled the And/Or-And/Also nuanced reality of synergy to be located macro-theoretically in the study. My schematic portrayal is provided in *Figure 3.5pii.*
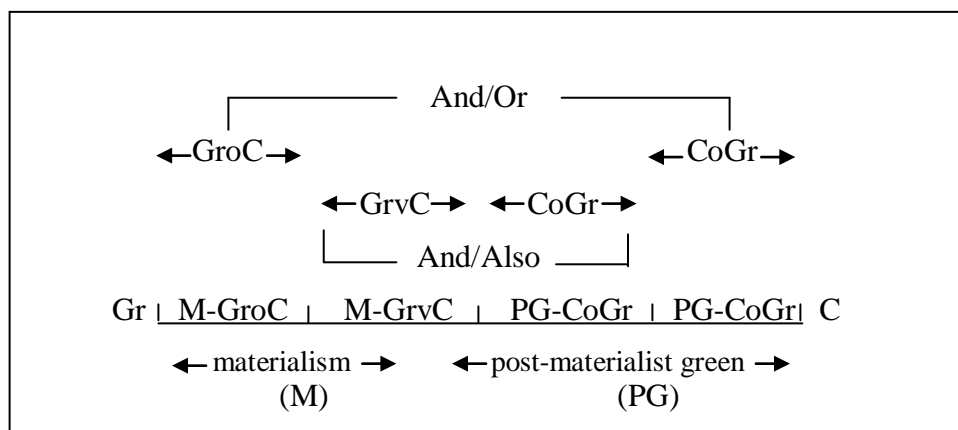
Figure 3.5pii Macro modernity value continuum - schema

Having located the nuanced reality of And/Or and And/Also theoretically, I identify my theorising of detecting synergy theory-methodologically.

- Detecting synergy theory-methodologically

Whereas *Chapters 1 - 2* (comparison of values) located synergy along the value continuum theoretically, *Chapters 3 - 7* (balance of values) are concerned with locating and detecting synergy along the value continuum theory-methodologically.

Thereby, I now introduce my theorising of detecting synergy theory-methodologically. Both value systems are theorised along the value continuum as follows.

At the growth value pole, the growth values of western science and *ngā tikanga tūpato* informing environmental degradation are detected. From the And/Or value pole of growth, my theorising relates to those values informing increased environmental degradation, as detected at the And/Or-growth over conservation exemplar of materialism (M-GroC). For my research purposes, they are theory-categorised by reference to the materialism growth values (M-GroC) of western science (anthropocentrism/M-GroC, biological determinism/M-GroC, dualism/M-GroC, economic determinism/M-GroC; empiricism/M-GroC, individualism/M-GroC, mechanism/M-GroC, and reductionism/M-GroC); and *ngā tikanga tūpato* (*aroha*/M-GroC, *kaitiaki*//M-GroC, *kotahitanga*/M-GroC, *mauri*/M-GroC,   *manaaki*/M-GroC, *wāhi tapu* /M-GroC*, wairua*/M-GroC*, whakapapa*/M-GroC and *whānau*/M-GroC).

From the And/Also value exemplar of growth, my theorising relates to those values informing declining environmental degradation, as detected at the And/Also-growth versus conservation exemplar of materialism (M-GrvC). For my research purposes, they are theory-categorised by reference to the And/Also materialism growth values (M-GrvC) of western science (anthropocentrism/M-GrvC, biological reductionism/M-GrvC, determinism/M-GrvC, dualism/M-GrvC, economic determinism/M-GrvC; empiricism/M-GrvC, individualism/M-GrvC and mechanism/M-GrvC); and *ngā tikanga tūpato* (*aroha*/M-GrvC, *kaitiaki*//M-GrvC, *kotahitanga*/M-GrvC, *manaaki*/M-GrvC; *mauri*/M-GrvC, *wāhi tapu* /M-GrvC; *wairua*/M-GrvC*, whakapapa*/M-GrvC and *whānau*/M-GrvC).

At the conservation value pole, the conservation values of western science and *ngā tikanga tūpato* informing environmental preservation are detected. From the And/Or value pole of conservation, my theorising relates to those values informing increased environmental preservation, as detected at the And/Or-conservation over growth exemplar of post-materialist green (PG-CoGr). For my research purposes, they are theory-categorised by reference to the And/Or post-materialist green values (PG-CoGr) of western science (anthropocentrism/PG-CoGr, biological determinism/PG-CoGr, dualism/PG-CoGr, economic determinism/PG-CoGr; empiricism/PG-CoGr, individualism/PG-CoGr mechanism/PG-CoGr and reductionism/PG-CoGr); and *ngā tikanga tūpato* (*aroha*/PG-CoGr, *kaitiaki*//PG-CoGr, *kotahitanga*/PG-CoGr, *manaaki*/PG-CoGr; *mauri*/PG-CoGr, *wāhi tapu* /PG-CoGr *wairua*/PG-CoGr, *whakapapa*/PG-CoGr and *whānau*/PG-CoGr).

From the And/Also value exemplar of conservation, my theorising relates to those values informing declining environmental preservation, as detected at the And/Also-conservation versus growth exemplar of post-materialist green (PG-CvGr). For my research purposes, they are theory-categorised by reference to the And/Also post-materialist green values (PG-CvrG) of western science (anthropocentrism/PG-CvrG, biological determinism/PG-CvrG, dualism/PG-CvrG, economic determinism/PG-CvrG; empiricism/PG-CvrG, individualism/PG-CvrG, mechanism/PG-CvrG and reductionism/PG-CvrG); and *ngā tikanga tūpato* (*aroha*/PG-CvrG, *kaitiaki*//PG-CvrG; *kotahitanga*/PG-CvrG, *manaaki*/PG-CvrG; *mauri*/PG-CvrG, *wāhi tapu* /PG-CvrG, *wairua*/PG-CvrG, *whakapapa*/PG-CvrG, and *whānau*/PG-CvrG).

As briefly outlined in the above section, such theorising of detecting synergy methodologically is identified by reference to these And/Or-And/Also theory-categorisations of both values systems along the value continuum. My summary chart is provided in *Tables 3.5pi,ii.*

Tables 3.5pi,ii   Value continuum theory-categorisations of the study - summary charts

Table 3.5pi   *Ngā tikanga tūpato* value continuum theory-categorisations of the study - summary chart

Materialism (M) theory-categorisations of the value continuum	
And/Or - materialism growth over conservation (M-GroC)	And/Also - materialism growth versus conservation (M-GrvC)
aroha/M-GroC	*aroha*/M-GrvC
*kaitiaki//*M-GroC	*kaitiaki//*M-GrvC
kotahitanga/M-GroC	*kotahitanga*/M-GrvC
manaaki/M-GroC	*manaaki*/M-GrvC
mauri/M-GroC	*mauri*/M-GrvC
wāhi tapu /M-GroC	*wāhi tapu* /M-GrvC
wairua/M-GroC	*wairua*/M-GrvC
whakapapa/M-GroC	*whakapapa*/M-GrvC
whānau/M-GroC	*whānau*/M-GrvC
Post-materialist green (PG) theory-categorisations of the value continuum	
And/Or - post-materialist conservation over growth (PG-CoGr)	And/Also - post-materialist conservation versus growth (PG-CvGr)
aroha/PG-CoGr	*aroha*/PG-CvGr
*kaitiaki//*PG-CoGr	*kaitiaki//*PG-CvGr
kotahitanga/PG-CoGr	*kotahitanga*/PG-CvGr
manaaki/PG-CoGr	*manaaki*/PG-CvGr
mauri/PG-CoGr	*mauri*/PG-CvGr
wāhi tapu /PG-CoGr	*wāhi tapu* /PG-CvGr
wairua/PG-CoGr	*wairua*/PG-CvGr
whakapapa/PG-CoGr	*whakapapa*/PG-CvGr
whānau/PG-CoGr	*whānau*/PG-CvGr

Table 3.5pii Western science value continuum theory-categorisations of the study - summary chart

Materialism (M) theory-categorisations of the value continuum	
And/Or - materialism growth over conservation (M-GroC)	And/Also - materialism growth versus conservation (M-GrvC)
anthropocentrism/M-GroC	anthropocentrism/M-GrvC
biological determinism/ M-GroC	biological determinism/M-GrvC
dualism/M-GroC	dualism/M-GrvC
economic determinism/M-GroC	economic determinism/M-GrvC
empiricism/M-GroC	empiricism/M-GrvC
individualism/M-GroC	individualism/M-GrvC
mechanism/M-GroC	mechanism/M-GrvC
reductionism/M-GroC	reductionism/M-GrvC
Post-materialist green (PG) theory-categorisations of the value continuum	
And/Or - post-materialist conservation over growth (PG-CoGr)	And/Also - post-materialist conservation versus growth (PG-CvGr)
anthropocentrism/PG-CoGr	anthropocentrism/PG-CvGr
biological determinism/PG-CoGr	biological determinism/PG-CvGr,
dualism/PG-CoGr	dualism/PG-CvGr
economic determinism/PG-CoGr	economic determinism/PG-CvGr
empiricism/PG-CoGr	empiricism/PG-CvGr
individualism/PG-CoGr	individualism/PG-CvGr
mechanism/PG-CoGr	mechanism/PG-CvGr
reductionism/PG-CoGr	reductionism/PG-CvGr

In summary, And/Or and And/Also were reviewed in terms of my theoretical nuanced problem solving on the *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum, then introducing it theory-methodologically for locating and detecting synergy.

Appendix 3.5q   Macro knowledge/value trajectory - further details

- Introduction

To recall, continual emphasis on difference/distinction discourse or oppositional And/Or hinders a greater appreciation of *kaitiakitanga*, under the *Resource Management Act 1991 (Chapter 1)*. Instead, my And/Also nuanced problem solving of *Māori* reflexivity, aims to better realise *kaitiakitanga* through reconciling synergistic or reflexive processes of similarity/difference discourse between *te ao Māori* and western science knowledge/value systems under the *Resource Management Act 1991 (Prelude* and *Chapters 1 - 2)*.

As prior noted, value comparison or the conflict and convergence of values were located in reflexive modernisation and synergy throughout the evolution of synergistic value change *(Prelude* and *Chapters 1 - 2)*. This nuanced problem solving entails an evolutionary value continuum of contesting values or synergy (that is, the macro *Māori, ngā tikanga tūpato* and western scientific conservation and use value continuum). Overall, And/Also, was theoretically developed at the high abstracted or macro thought level of modernity termed the 'formulation stage' of nuanced problem solving on *Māori* reflexivity in the study *(Prelude* and *Chapters 1 - 3)*.

Thus, my nuanced problem solving is methodologically developed for conducting the empirical investigation and analysis of synergy, termed 'the application stage' of nuanced problem solving on *Māori* reflexivity in the study *(Chapters 4 - 7)*. Altogether, such And/Also theorising focuses on locating and detecting synergy throughout the evolution of synergistic value change from modernity (the formulation stage) to world and *Aotearoa* environmental governance under the *Resource Management Act 1991* (the application stage).

In this appendix, I background my formulation of And/Also nuanced problem solving methodologically. I begin with the theory-methodological development of And/Also; that being, in general terms of the formulation stage of nuanced problem solving on *Māori* reflexivity. Lastly, I enlarge on the theory-

methodological application of And/Also; that being, in specific terms of the formulation stage of nuanced problem solving on *Māori* reflexivity.

Formulating the value continuum of modernity theory-methodologically and kaitiakitanga

To start, I briefly outline the formulation of the value continuum of modernity theory-methodologically, which encapsulates the And/Also nuanced problem solving stance on *kaitiakitanga* in the study. After reviewing the theoretical development of my nuanced problem solving of the comparison of values, I introduce the methodological development of my And/Also theorising of value comparison.

Formulating the value continuum of modernity theoretically - reflexive modernisation and synergy

I begin with the formulation of the value continuum of modernity theoretically, whereby the conflict and convergence of values were located in reflexive modernisation and synergy throughout the evolution of synergistic value change. Fundamentally, this enabled the theoretical development of an And/Also stance on *kaitiakitanga* in the study.

Retrospectively, it was theoretically developed through my nuanced problem solving of value comparison at macro modernity thought three-fold; that being,

1. from a macro And/Also theoretical stance of high abstracted modernity - referring to my *Māori* standpoint on macro modernity;
2. through my *Māori* modernity theories of macro And/Also nuanced problem solving - referring to the macro theoretical foreground of the study; and
3. through my *Māori* modernity theorising of macro nuanced problem solving - referring to the macro evidential basis of the study.

My summary chart is provided in *Table 3.5qi.*

Table 3.5qi   Theoretical formulation of the value continuum of modernity from an And/Also stance on *kaitiakitanga* - summary chart

1. Macro And/Also theoretical stance of high abstracted modernity thought - <u>*Māori* standpoint on macro modernity</u>	*Summary points:* - theoretically re-locates *te ao Māori* 'in' change (modernity) rather than the past (tradition) - theoretically re-locates the western science and *te ao Māori* in macro modernity and change - theoretically relocates *Māori* adaptive or reflexive strategies (that is, *Māori* reflexivity and detraditionalisation) in macro modernity and change - theoretically relocates a *Māori* theoretical voice in macro modernity and change for *Māori* advancement
2. *Māori* modernity theories of macro And/Also nuanced problem solving - <u>Macro theoretical foreground of the study</u>	*Summary points:* - theoretical terminology of value comparison (value change and reflexivity theories) - theoretical scope of value comparison (comparative, cross-cultural evolutionary, inter-disciplinary, and multi-dimensional heuristic uses of modernity theory) - theoretical field of value comparison (epochal change analysis, epochal development, and epochal contour analysis)

Table 3.5qi   Theoretical formulation of the value continuum of modernity from an And/Also stance on *kaitiakitanga* - summary chart (continued)

3. *Māori* modernity theorising of macro And/Also nuanced problem solving - <u>Macro evidential basis of the study</u>		
Summary points (1) - theorises the *te ao Māori* and western science paradigmatic shifts of reflexive modernisation and synergy related to macro world environmental governance (that is, the theoretical phenomena of value comparison) - theorises the macro And/Also *te ao Māori* and western science knowledge and value trajectory of global environmental change (that is, the theoretical history of value comparison)		
Summary points (2) - theorises macro epochal change, macro epochal development and the macro epochal contours (that is, the theoretical topics of value comparison)		
i. Macro epochal change topics	*ii. Macro epochal development topics*	*iii. Macro epochal contour topics*
- macro capitalism and cosmopolitan **-** macro denatured nature or end of nature - macro feudalism and fordism - macro gemeinshaft and gesellschaft **-** macro holistic relations **-** macro industrialism - macro liberalism **-** macro metaphysical **-** macro nature as enemy **-** macro nature as one and organic **-** macro organised irresponsibility **-** macro place-based, space-based **-** macro social explosiveness of hazard - macro sovereignty and state **-** macro Westminster-Keynesian system **-** macro Westphalia state system	**-** macro multiple modernities **-** macro paradigmatic shifts - macro pre-modern thought **-** macro risk society and network society **-** macro reflexive modernisation **-** macro second and late-modernity **-** macro information and biotechnology ages - macro modern thought and positivist scientism **-** macro difference/distinction discourse **-** macro modernisation - macro post-materialist green thought **-** macro relations of production **-** macro relations of definition **-** macro similarity and difference discourse	**-** macro detraditionalisation of *ngā tikanga tūpato* (macro diverse/multi-reflexivity, multi-reflexivity, collective institutional reflexivity) **-** macro *ngā tikanga tūpato* and synergy **-** macro *ngā tikanga tūpato* and reflexive modernisation **-** macro modernisation of epochal contours **-** macro globalization **-** macro reflexivity (simple reflexivity, enhanced social reflexivity, social reflexivity) **-** macro Judaeo-Christian/*Aotearoa* thought **-** macro *Māori* migration and the creation myths **-** macro traditional *Māori* society *(waka, iwi and hapu)*

Having briefly reviewed my And/Also theorising of the modernity value continuum macro-theoretically (that is, the theory side of nuanced problem solving), the methodological development of the modernity value continuum is introduced meso and micro-theoretically (that is, the practical side of nuanced problem solving).

- Formulating the value continuum of modernity methodologically

I now introduce the formulation of the value continuum of modernity methodologically or the methodological development of my macro And/Also theorising. Theory-methodologically, the conflict and convergence of values were located in reflexive modernisation and synergy throughout the evolution of synergistic value change from modernity (theory And/Also) to world and national *(Aotearoa)* environmental governance under the *Resource Management Act 1991* (practical And/Also). Hence, this enabled the theory-methodological development of an And/Also stance on *kaitiakitanga* in the study.

Therein, the And/Also theory side of *kaitiakitanga* was methodologically developed to elucidate the And/Also practical side of *kaitiakitanga*. In the following, I provide a brief outline of the methodological development of the modernity value continuum meso and micro-theoretically. As drawn on my And/Also theorising of the comparison of values macro-theoretically, it commences with a *Māori* standpoint on meso (medium abstracted thought) and micro (low abstracted or concretised thought) modernity. I then lay out the theory-methodological foreground of the study. To conclude, the meso and micro evidential basis of the study is presented.

- Emancipating kaitiakitanga practically in modernity -
      te ao Māori and change

The theory-methodological development of a *te ao Māori* location in change or a *Māori* standpoint on modernity is the essential starting point of emancipating *kaitiakitanga* meso and micro practically in the study. It is introduced theory-methodologically from theory to practice; that is, a *Māori* standpoint on meso and micro modernity. Next, the research orientation of change which

encapsulates the synergistic research model of the thesis is pinpointed. I then provide a preliminary introduction to *Māori* advancement from a *Māori* standpoint on meso and micro modernity.

- A Māori standpoint on meso and micro modernity - locating te ao Māori in change theory-methodologically

I commence with locating *te ao Māori* in change theory-methodologically from a *Māori* standpoint on meso and micro modernity. Macro-theoretically, the emancipation of *kaitiakitanga* began at the theoretical development of a *te ao Māori* location in change, as articulated by reference to a *Māori* standpoint on macro modernity. For my research purposes, it is theory-methodologically developed to emancipate *kaitiakitanga* practically in the study. Meso and micro theoretically, therefore, the theory-methodological development of a *te ao Māori* in change was articulated by reference to a *Māori* standpoint on meso and micro modernity.

In fact, *Māori* empowerment stemmed on emancipating *kaitiakitanga* in change; that being, the change orientation of the research as follows.

- Synergistic research model of the thesis - orientating kaitiakitanga in change

Hereby, a change orientation encompassed the synergistic research model of the thesis, as schematically portrayed in *Figure 3.5qi.* In the research, this was theory-methodologically developed from theory (as depicted by the downward arrow in the top part of *Figure 3.5qi)* to practical reality (as depicted by the downward arrow in the bottom part of *Figure 3.5qi)*. The theory side was change oriented through the theoretical development of a *Māori* standpoint on macro modernity - referring to the conceptual and methodological levels of a synergistic research model (*Figure 3.5qi)*. The practical side was change oriented through the theory-methodological development of a *Māori* standpoint on meso and micro modernity - referring to the empirical and analytical levels of a synergistic research model (*Figure 3.5qi)*. Altogether, a change orientation encircled the synergistic research model of the thesis both theoretically and practically (*Figure 3.5qi)*.

theory > > > theoretical
development

conceptual ↓ methodological

synergistic

research   CHANGE   *model*
ORIENTATION

empirical ↓ analytical

practical > > > methodological
development
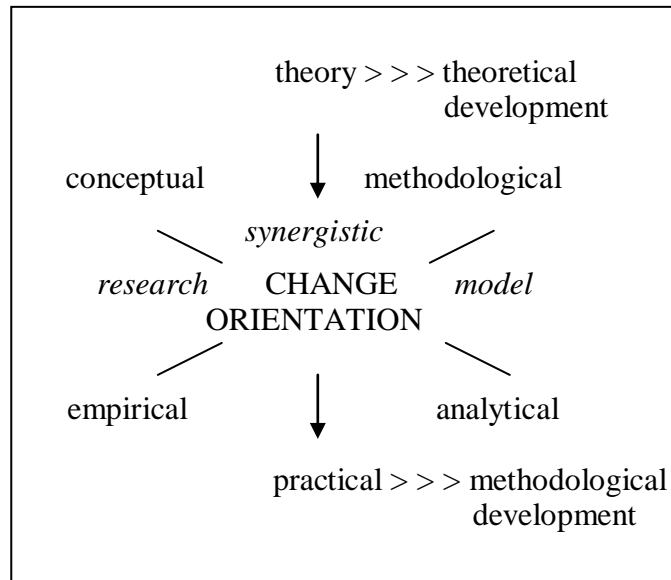
**Figure 3.5qi   Change orientation of the synergistic
research model - schema**

Most importantly, the synergistic research model of the thesis propounds a
change orientation through value comparison for *Māori* advancement. A *Māori*
standpoint on meso and micro modernity is lastly reviewed in relation to the
advancement of *Māori* by the theory-methodological development of value
comparison.

*- Advancing Māori through value comparison from a Māori standpoint on
meso and micro modernity*

Whereas the comparison of values were theoretically developed for *Māori*
advancement macro-theoretically, the theory-methodological development of
value comparison seeks to advance *Māori* meso and micro-practically.

Thus, value comparison was theory-methodologically developed from a *Māori*
standpoint on meso and micro modernity with the focal concern of advancing
Māori both empirically and analytically. A brief introduction follows. The
proceeding discussion expands on the initial discussion provided here.

In short, I briefly introduce the theory-methodological development of the
Māori theoretical voice, pro-*Māori* theoretical approach and *te ao Māori*

theoretical location of value comparison from a *Māori* standpoint on meso and micro modernity.

First, my meso and micro modernity terminology were theory-methodologically developed in value comparison through the *Māori* theory-methodological voice of a *Māori* standpoint on meso and micro modernity; that being, the nuanced reality *(Chapters 4 - 5)* and reflexive practice *(Chapters 6 - 7)* terms of reference of the study.

Second, I theory-methodologically developed the nuanced reality of *Māori* reflexivity or the adaptive capacity of *te ao Māori* in the comparison of values through the pro-*Māori* theory-methodological approach of a *Māori* standpoint on meso and micro modernity.

Third, *te ao Māori* was theory-methodologically developed on par with western science in value comparison through the *te ao Māori* theory-methodological location of a *Māori* standpoint on meso and micro modernity.

Taken together, they theory-methodologically developed value comparison for the advancement of *Māori* empirically and analytically. A summarised overview is provided in *Table 3.5qii.*

Table 3.5qii   The theory-methodological development of value comparison and *Māori* advancement - summary

1. The *Māori* theory-methodological voice of a *Māori* standpoint on meso and micro modernity	*Summary points:* - theory-methodologically develops value comparison empirically for *Māori* advancement through the nuanced reality terminology of the study *(Chapters 4 - 5)* - theory-methodologically develops value comparison analytically for *Māori* advancement through the nuanced reality terminology of the study *(Chapters 4 - 5)* - theory-methodologically develops value comparison empirically for *Māori* advancement through the reflexive practice terminology of the study *(Chapters 6 - 7)* - theory-methodologically develops value comparison analytically for *Māori* advancement through the reflexive practice terminology of the study *(Chapters 6 - 7)*
2. The pro-*Māori* theory-methodological approach of a *Māori* standpoint on meso and micro modernity	*Summary points:* - theory-methodologically develops value comparison empirically for *Māori* advancement through embracing *Māori* reflexivity or the adaptive capacity of *te ao Māori (Chapters 4 - 7)* - theory-methodologically develops value comparison analytically for *Māori* advancement through embracing *Māori* reflexivity or the adaptive capacity of *te ao Māori (Chapters 4 - 7)*

Table 3.5qii   The theory-methodological development of value comparison - summary (continued)

3. The *te ao Māori* theory-methodological location of a *Māori* standpoint on meso and micro modernity	*Summary points:* - theory-methodologically develops value comparison empirically for *Māori* advancement through elevating *te ao Māori* on par with western science *(Chapters 4 - 7)* - theory-methodologically develops value comparison analytically for *Māori* advancement through elevating *te ao Māori* on par with western science *(Chapters 4 - 7)*

Crucially, I propose that *Māori* advancement occurred simultaneously between and across modernity thought or theory and practical reality. This is briefly examined in the following sub-sections regarding the theory-methodological foreground and evidential basis of value comparison in the study.

- The theory-methodological foreground of value comparison

Furthermore, the macro theoretical foreground of value comparison was theory-methodologically developed, for *Māori* advancement in association to the theoretical terminology, theoretical scope and theoretical field of the study.

In order to progress *Māori,* the theory-methodological development of value comparison was simultaneous between theory and practice. I theory-methodologically developed the theory-methodological terminology of the comparison of values; these being, simultaneously formed and informed by my theoretical and practical terms of reference of the study.

The theory-methodological scope of value comparison was theory-methodologically developed simultaneously by the comparative, cross-cultural evolutionary, inter-disciplinary, and multi-dimensional heuristic uses (that is, the theoretical heuristic uses) and applications (that is, the practical heuristic applications) of modernity theory.

I theory-methodologically developed the theory-methodological field of value comparison simultaneously by the epochal change analysis, epochal development, and epochal contour analysis uses (that is, the theoretical epochal uses) and applications (that is, the practical epochal applications) of modernity theory.

My summary chart is provided in *Table 3.5qiii.*

Table 3.5qiii   The theory-methodological foreground of the study - summary chart

1. The theory-methodological terminology of value comparison	*Summary points:* - the theory-methodological terms of reference for nuanced reality *(Chapters 4 - 5)* were formed and informed by the value change and reflexivity theoretical and practical terms of reference of the study - the theory-methodological terms of reference for reflexive practice *(Chapters 6 - 7)* were formed and informed by the value change and reflexivity theoretical and practical terms of reference of the study
2. The theory-methodological scope of value comparison	*Summary points:* - the evolutionary heuristic uses of modernity theory were theory-methodological developed with respect to the evolutionary heuristic applications of modernity theory - the multi-dimensional heuristic uses of modernity theory were theory-methodologically developed with respect to the multi-dimensional heuristic applications of modernity theory - the comparative heuristic uses of modernity theory were theory-methodologically developed with respect to the comparative heuristic applications of modernity theory

Table 3.5qiii   The theory-methodological foreground of the study - summary chart (continued)

2. The theory-methodological scope of value comparison (continued)	- the cross-cultural heuristic uses of modernity theory were theory-methodologically developed with respect to the cross-cultural heuristic applications of modernity theory - the inter-disciplinary heuristic uses of modernity theory were theory-methodologically developed with respect to the inter-disciplinary heuristic applications of modernity theory
3. The theory-methodological field of value comparison	*Summary points:* - the epochal change analysis uses of modernity theory were theory-methodological developed with respect to the epochal change analysis applications of modernity theory - the epochal development uses of modernity theory were theory-methodologically developed with respect to the epochal development applications of modernity theory - the epochal contour analysis uses of modernity theory were theory-methodologically developed with respect to the epochal contour analysis applications of modernity theory

However, I propose that *Māori* empowerment culminates across macro, meso and micro modernity thought. Thereby, value comparison is theory-methodologically developed on *kaitiakitanga* evidentially, as follows.

- The theory-methodological evidential basis of value comparison

Lastly, the macro theoretical evidential basis of value comparison is theory-methodologically developed on *kaitiakitanga* across modernity thought meso and micro-theoretically for the empowerment of *Māori* two-fold; that is,

    i.   the macro evidential phenomenon of value comparison on *kaitiakitanga*, as theorised by reference to the *te ao Māori* and western science paradigmatic shifts of reflexive modernisation and synergy related to macro world environmental governance; and

    ii.   the macro evidential history of value comparison on *kaitiakitanga*, as theorised by reference to the macro modernity *te ao Māori* and western science knowledge and value trajectory of global environmental change.

As transcended from global epochal modernity thought on world environmental governance and change, it is theory-methodologically developed across macro and meso modernity utilising the data source of documents - culminating in *Māori* empowerment meso-theoretically. Moreover, the meso theory-methodological evidential basis of value comparison on *kaitiakitanga* transcends modernity at global and national institutional modernity thought on world and national/*Aotearoa* environmental governance and change; that being,

    • The global and national/*Aotearoa* environmental governance and change research documents on sustainability and *Resource Management Act 1991* -

i.   in relation to world and national/*Aotearoa* sustainability or the sustainable development paradigm (SDP) *(Chapter 4)*; with specific regard to the

sustainable management provision under the *Resource Management Act (RMA) 1991 (Appendix 1.1)*; and

ii. in relation to the *Resource Management Act (RMA) 1991 (Chapter 4)*; with specific regard to the *Māori* provisions *(Appendix 1.1)*;

- The global and national/*Aotearoa* environmental governance and change research documents on EM and EPI -

iii. in relation to world and national/*Aotearoa* environmental monitoring (EM) *(Chapter 5)*; with specific regard to the environmental monitoring provision under the *Resource Management Act (RMA) 1991 (Appendix 1.1)*; and

iv. in relation to world and national/*Aotearoa* environmental performance indicator (EPI) development *(Chapter 5)*; with specific regard to the environmental performance indicator provisions under the *Resource Management Act (RMA) 1991 (Appendix 1.1)*.

Thereof, as transcended from global and national institutional modernity thought on world and *Aotearoa* environmental governance and change, it is theory-methodologically developed across meso and micro modernity utilising the data sources of documents, interviews and participant observation - culminating in *Māori* empowerment micro-theoretically. Moreover, the micro theory-methodological evidential basis of value comparison on *kaitiakitanga* transcends modernity at national/*Aotearoa* regional and local/tribal institutional modernity thought on *Aotearoa* environmental governance and change; that being,

- The five environmental authority case studies -

i. in relation to the Ministry for the Environment *(Chapter 6)*; with specific regard to national environmental performance indicator development;

ii. in relation to the *Waikato* Regional Council (Environment *Waikato)* *(Chapter 6)*; with specific regard to regional environmental performance indicator development;

iii. in relation to the *Taupō* District Council *(Chapter 6)*; with specific regard to district environmental performance indicator development;

iv. in relation to the *Otorohanga* District Council *(Chapter 6)*; with specific regard to district environmental performance indicator development; and

v. in relation to the Thames-Coromandel District Council *(Chapter 6)*; with specific regard to district environmental performance indicator development;

- The three *Māori* river community case studies -

vi. in relation to the *Oparau* river community case study; with specific regard to local river *kaitiakitanga (Chapter 7)*;

vii. in relation to the *Harataunga* river community case study; with specific regard to local river *kaitiakitanga (Chapter 7)*; and

viii. in relation to the *Waitahanui* river community case study; with specific regard to local river *kaitiakitanga (Chapter 7)*.

My summary chart is provided in *Tables 3.5qiva,b.*

Tables 3.5qiva,b   The theory-methodological evidential basis of value comparison - summary charts
Table 3.5qiva   The meso theory-methodological evidential basis of value comparison - summary chart

1. The meso evidential phenomenon of value comparison on *kaitiakitanga*, as theorised by reference to the *te ao Māori* and western science paradigmatic shifts of reflexive modernisation and synergy related to meso world and national/*Aotearoa* environmental governance	*Summary points:* - theory-methodologically developed from global epochal modernity thought (macro) on world environmental governance to global and national institutional modernity thought (meso) on world and national/*Aotearoa* environmental governance *(Chapters 4 - 5)*

2. The meso evidential history of value comparison on *kaitiakitanga*, as theorised by reference to the meso modernity *te ao Māori* and western science knowledge and value trajectory of global and national/*Aotearoa* environmental change	*Summary points:*
	
	- theory-methodologically developed across macro and meso modernity utilising the data source of documents
	
	- theory-methodologically develops the global and *Aotearoa* environmental governance research documents on sustainability, that being,
	  • in relation to world and national sustainability or the sustainable development paradigm (SDP) *(Chapter 4)*; with specific regard to the sustainable management provision under the *Resource Management Act (RMA) 1991 (Appendix 1.1)*; and
	  • in relation to the *Resource Management Act (RMA) 1991 (Chapter 4)*; with specific regard to the *Māori* provisions *(Appendix 1.1)*;
	
	- theory-methodologically develops the global and *Aotearoa* environmental governance research documents on EM and EPI, that being,
	  • in relation to world and national environmental monitoring (EM) *(Chapter 4)*; with specific regard to the environmental monitoring provision under the *Resource Management Act (RMA) 1991 (Appendix 1.1)*; and
	  • in relation to world and national environmental performance indicator (EPI) development *(Chapter 4)*; with specific regard to the environmental performance indicator provisions under the *Resource Management Act (RMA) 1991 (Appendix 1.1)*.

Table 3.5qivb   The micro theory-methodological evidential basis of value comparison - summary chart

1. The micro evidential phenomenon of value comparison on *kaitiakitanga*, as theorised by reference to the *te ao Māori* and western science paradigmatic shifts of reflexive modernisation and synergy related to micro national/*Aotearoa,* regional, district and local/tribal environmental governance	*Summary points:* - theory-methodologically developed from global and national institutional modernity thought (meso) on world and national/*Aotearoa* environmental governance to national/*Aotearoa* regional, district and local/tribal institutional modernity thought on *Aotearoa* environmental governance *(Chapters 6 - 7)*
2. The micro evidential history of value comparison on *kaitiakitanga*, as theorised by reference to the meso modernity *te ao Māori* and western science knowledge and value trajectory of global, national/*Aotearoa,* regional and local/tribal environmental change	*Summary points:* - theory-methodologically developed across meso and micro modernity utilising the data source of documents, research interviews and participant observation - theory-methodologically develops the five environmental authority case studies; that being, - in relation to the Ministry for the Environment *(Chapter 6)*; with specific regard to national environmental performance indicator development; - in relation to the *Waikato* Regional Council or Environment *Waikato (Chapter 6)*; with specific regard to regional environmental performance indicator development; - in relation to the *Taupō* District Council *(Chapter 6)*; with specific regard to district environmental performance indicator development; - in relation to the *Otorohanga* District Council *(Chapter 6)*; with specific regard to district environmental performance indicator development; and - in relation to the Thames-Coromandel District Council *(Chapter 6)*; with specific regard to district environmental performance indicator development

Table 3.5qivb   The micro theory-methodological evidential basis of value comparison - summary chart (continued)

2. The micro evidential history of value comparison on *kaitiakitanga*, as theorised by reference to the meso modernity *te ao Māori* and western science knowledge and value trajectory of global, national/*Aotearoa,* regional and local/tribal environmental change	*Summary points:*
	
	- theory-methodologically develops the three *Māori* community case studies; that being,
	
	   • in relation to the *Oparau* river community case study; with specific regard to local river *kaitiakitanga (Chapter 7)*;
	
	   • in relation to the *Harataunga* river community case study; with specific regard to local river *kaitiakitanga (Chapter 7)*; and
	
	   • in relation to the *Waitahanui* river community case study; with specific regard to local river *kaitiakitanga (Chapter 7)*

- Summary

In summary, the formulation of the value continuum of modernity was introduced from an And/Also stance of *kaitiakitanga* driven on the empowerment of *Māori*. Value comparison was theory-methodologically developed from theory (modernity) to practical reality (world and national/*Aotearoa* environmental governance and change under the *Resource Management Act 1991).* Consequently, both the And/Also theory and practical sides of *kaitiakitanga* were emancipated simultaneously between and across modernity. Overall, this entailed the theory-methodological development of a *Māori* standpoint on meso and micro modernity, the theory-methodological foreground of value comparison and the meso and micro evidential basis of value comparison.

Appendix 3.5r   Modernity context, concepts and critiques - further details

- Formulation stage of And/Also nuanced problem solving - the modernity context, concepts and critiques of value comparison

I provide a general overview of the formulation stage of And/Also nuanced problem solving, as articulated by reference to the three phases of the modernity context, concepts and critiques of value comparison. In the following, I briefly review the macro And/Also formulation stage before it is theory-methodologically developed meso and micro-theoretically.

- The macro And/Also formulation stage

To recapitulate, the macro And/Also formulation stage was based on my high abstracted nuanced problem solving of the macro modernity context, concepts and critiques of value comparison. Macro-theoretically, it was steered on *Māori* advancement from an And/Also stance of *kaitiakitanga* at the macro modernity thought level of world environmental governance and change.

A three-phased macro nuanced problem solving approach was employed *(Chapter 2)*. First, synergy and *Aotearoa kaitiakitanga* were located at paradigmatic shifts of reflexive modernisation from macro late-modernity, referred to as the distinguishing point *(Chapter 2)*. In phase one (termed, 'the modernity context phase of value comparison'), I utilised heuristic uses of modernity theory to set the macro modernity research context of the conflict and convergence of values. This involved the use of macro ideological evidence on epochal change related to world environmental governance.

Both of the remaining phases were employed together. Next, synergy and *Aotearoa kaitiakitanga* were articulated throughout the *te ao Māori* and western scientific paradigmatic shifts of reflexive modernisation from the distinguishing point of macro late-modernity. In phase two (termed, 'the modernity concepts phase of value comparison'), I utilised heuristic uses of modernity theory to conceptualise synergy and *Aotearoa kaitiakitanga* within

the context of macro modernity. This involved the use of macro ideological evidence on epochal development related to world environmental governance.

In phase three (termed, 'the modernity critiques phase of value comparison'), I utilised heuristic uses of modernity theory to critique synergy and *Aotearoa kaitiakitanga* through the concepts and within the context of macro modernity. To finish, this involved the use of macro ideological evidence on the epochal contours related to world environmental governance.

In review, the phases, purpose(s) and basic features of the modernity context, concepts and critiques of value comparison are briefly summarised macro-theoretically in *Table 3.5ri.*

Table 3.5ri   Macro And/Also formulation stage and the modernity phases of value comparison - summary chart

Phase One: *The modernity context of value comparison*	
Purpose: • To set the value continuum of modernity • To locate synergy along the value continuum from late-modernity	Basic features: • Value continuum • Knowledge and value trajectory • A late-modern location of synergistic value change
Phase Two: *The modernity concepts of value comparison*	
Purpose: • To identify the And/Also terminology of synergy	Basic features: • Globalisation terms of reference • Reflexivity terms of reference • Detraditionalisation terms of reference
Phase Three: *The modernity critiques of value comparison*	
Purpose: • To construct an And/Also viewpoint of synergy	Basic features: • *Māori* standpoint on modernity • Epochal development framework • Epochal contour analysis

- The meso and micro And/Also formulation stages

Correspondingly, the same And/Also nuanced problem solving approach was theory-methodologically developed meso and micro-theoretically, as articulated by reference to the meso and micro And/Also formulation stages.

Briefly, they are both revised three-fold as follows. To begin, synergy and *Aotearoa kaitiakitanga* are located at paradigmatic shifts of reflexive modernisation from the distinguishing point of meso and micro late-modernity. In the meso and micro modernity contexts phases of value comparison (phase one), I utilise heuristic applications of modernity theory to set the meso and micro modernity contexts of value comparison. This involves the application of meso and micro ideological evidence on epochal change related to world, national/*Aotearoa,* regional, district, and local/tribal environmental governance and change *(Chapters 4 - 7).*

Secondly, synergy and *Aotearoa kaitiakitanga* are articulated throughout the *te ao Māori* and western scientific paradigmatic shifts of reflexive modernisation from meso and micro late-modernity. In the meso and micro modernity concepts phases of value comparison (phase two), I utilise heuristic applications of modernity theory to conceptualise synergy and *Aotearoa kaitiakitanga* within the contexts of meso and micro modernity. This involves the application of meso and micro ideological evidence on epochal development related to world, national/*Aotearoa,* regional, district, and local/tribal environmental governance and change *(Chapters 4 - 7).*

Lastly, I utilise heuristic applications of modernity theory to critique synergy and *Aotearoa kaitiakitanga* through the concepts and within the contexts of meso and micro modernity. In the meso and micro modernity critiques phases of value comparison (phase three) this involves the application of meso and micro ideological evidence on the epochal contours related to world, national/*Aotearoa,* regional, district, and local/tribal environmental governance and change *(Chapters 4 - 7).*

Overall, the meso and micro And/Also formulation stages were based on my medium and low abstracted or concretised nuanced problem solving of the meso and micro modernity contexts, concepts and critiques of value comparison. Meso-micro theoretically, it was geared on *Māori* advancement from an And/Also stance of *kaitiakitanga* at the meso and micro modernity thought levels of world, national/*Aotearoa,* regional, district, and local/tribal environmental governance and change *(Chapters 4 - 7).*

My summary charts are provided in *Tables 3.5riia,b,c.*

Tables 3.5riia,b,c   Meso and micro And/Also formulation stages and the modernity contexts, concepts and critiques phases of value comparison - summary charts

Table 3.5riia   The meso and micro modernity contexts phases of value comparison - summary chart

Meso And/Also formulation stage	Micro And/Also formulation stage
Purposes • To set the *Māori* and western scientific value continuum of meso modernity • To locate synergy along the *Māori* and western scientific value continuum of meso modernity from late-modernity *Basic features* • The meso *Māori* and western science knowledge and value trajectory of the SDP, *RMA 1991,* EM and EPI • The meso *Māori* and western scientific conservation and use value continuum of the SDP, *RMA 1991,* EM, and EPI • • The meso epochal development framework of the SDP and values; *RMA 1991* and values, EM and values, EPI and values	*Purposes* • To set the *Māori* and western scientific value continuum of micro modernity • To locate synergy along the *Māori* and western scientific value continuum of micro modernity from late-modernity *Basic features* • The micro *Māori* and western science knowledge and value trajectory of cross-tribal local river *kaitiakitanga* and inter-governmental institutional environmental governance • The micro *Māori* and western scientific conservation and use value continuum of cross-tribal local river *kaitiakitanga* and inter-governmental institutional environmental governance • The micro epochal development framework of cross-tribal local river *kaitiakitanga* and values; inter-governmental institutional environmental governance and values

Table 3.5riib   The meso and micro modernity concepts phases of value comparison - summary chart

Meso And/Also formulation stage	Micro And/Also formulation stage
Purpose • To identify the And/Also terminology of synergy at meso thought *Basic features of globalisation, reflexivity and detraditionalisation* • The meso multiple and vertical models of sustainability concepts • The meso supremacy, hierachy and re-matching concepts • The meso multiplicity and verticality concepts	*Purpose* • To identify the And/Also terminology of synergy at micro thought *Basic features of globalisation, reflexivity and detraditionalisation* • The micro concepts of diverse/multi-reflexivity and collective cross-tribal reflexivity • The micro concepts of multi-reflexivity and collective institutional reflexivity

Table 3.5riic   The meso and micro modernity critiques phases of value comparison - summary chart

Meso And/Also formulation stage	Micro And/Also formulation stage
Purpose • To construct an And/Also viewpoint of synergy at meso thought *Basic features* • *Māori* standpoint on meso modernity • Meso epochal development framework • Meso epochal contour analysis	*Purpose* • To construct an And/Also viewpoint of synergy at micro thought *Basic features* • *Māori* standpoint on micro modernity • Micro epochal development framework • Micro epochal contour analysis

- *Summary*

Taken together, the formulation stage of And/Also nuanced problem solving was theory-methodologically developed at the macro modernity context, concepts and critiques sub-stages of value comparison meso and micro-theoretically.

To summarise, this section presented the theory-methodological development of And/Also more generally at the formulation stage of nuanced problem solving on *Māori* reflexivity in the study. A general overview of my formulation of the value continuum of modernity was provided, followed by a summarised discussion of the formulation stage of And/Also nuanced problem solving.

Focally, I established that the meso and micro *te ao Māori* and western science knowledge/value trajectories of the documented, oral and observable data formed the evidential basis from which synergy was located in *Māori* reflexivity and reflexive modernisation. Lastly, the specific formulation of such And/Also nuanced problem solving is examined by reference to the methods and techniques that were employed to locate and detect synergy along the modernity value continuum.

Appendix 3.5s   *Māori* And/Also terminology method - further details

- Introduction

To recapitulate, *Māori* reflexivity and reflexive modernisation were at the heart of the late-modern location of synergy, as theory-methodologically developed in my prior nuanced problem solving of And/Also. Thus, they had a central place in the And/Also theorising which was theory-methodologically applied on the methods and techniques of the study. Before going into the specifics of such nuanced problem solving, I provide a general overview of the theory-methodological application of *Māori* reflexivity and reflexive modernisation in the study.

- The theory-methodological application of Māori reflexivity and reflexive modernisation - introduction

Māori reflexivity and reflexive modernisation were theory-methodologically applied, drawing on my nuanced problem solving of the concepts of performativity/performance (Parker et al., 1995; Robson et al., 2005; and Schick, 1996) and autopoesis (Luhmann, 2004; Mingers, 1995; Priban et al., 2001; and Teubner et al., 1993). After they are introduced, I identify their derivatives in the study.

- Performativity/performance and autopoesis - theorising the reflexive processes of growth and conservation

The performativity/performance and autopoesis concepts usefully deal with the reflexive processes of growth and conservation at the late-modern (contemporary) location of synergy in *Māori* reflexivity and reflexive modernisation. Indeed, many theorists of performativity/performance and autopoesis argue that all world institutions of late-modernity are reflexive (Luhmann, 2004; Mingers, 1995; Parker et al., 1995; Priban et al., 2001; Robson et al., 2005; Schick, 1996; and Teubner et al., 1993). In autopoesis thought, this reflexivity is deemed ecological. Essentially, it is likened to the reflexive adaptive processes of ecological systems of nature - the key derivative of autopoesis.

Briefly, I adopted an And/Also theoretical stance on the late-modern value terrain of growth and conservation, as drawn from Westminster-Keynesian (Cheyne et al., 1997; Durie, 1994; Havemann, 1998; and Kesley, 1995) and New Public Management thought (Boston et al., 1996; and Palmer, 1990) on the performativity/performance and autopoesis concepts. The performativity concept was theorised as growth oriented, encapsulating a shallow, short termed and output focused environmental viewpoint. By contrast, performance was theorised as conservation oriented, encapsulating a deep, long termed environmental viewpoint based on authentic assessments as outcomes. Both performativity and performance were conceived to play out the institutional commodification of outputs, which hence converted conservation and management into monetarised transactions divorced from outcomes in an ecological or cultural sense. Autopoesis was theorised as the reflexive or adaptive strategies being played out in the contesting epistemological struggle between growth and conservation.

Hereby, performativity/performance and autopoesis were the overarching concepts from which my other nuanced problem solving concepts derived, as briefly identified next.

- The derivatives of performativity/performance

I utilised eleven derivatives of the performativity/performance concept, as listed below:

   - the performativity derivatives
- hierarchy;
- official discourse;
- supremacy;
- verticality; and
- vertical sustainability model.

- the performance derivatives
- hierarchy and multiple model connection;
- multiple sustainability model;

- multiplicity;

- non-official discourse;

- re-matching; and

- vertical governance.

In this study, these concepts theorised growth and conversation at medium abstracted (meso) thought on world and national/*Aotearoa* environmental governance and change, as drawn from my *Māori* reflexive theorising of synergy macro-theoretically. Hence, *Māori* reflexivity and reflexive modernisation were realised meso-theoretically in the search for synergistic balance both world and national/*Aotearoa* wide. My definitions of the performativity/performance derivatives are listed in *Table 4.iib*.

I utilised four derivatives of the autopoesis concept, as listed below:

- the performativity derivatives of autopoesis

- collective institutional reflexivity; and

- multi-reflexivity.

- the performativity derivatives of autopoesis

- collective cross-tribal reflexivity; and

- diverse/multi-reflexivity.

In this study, these concepts theorised growth and conversation at concretised (micro) thought on *Aotearoa* environmental governance and change, as drawn from my *Māori* reflexive theorising of synergy macro/meso-theoretically. Hence, *Māori* reflexivity and reflexive modernisation were realised micro-theoretically in the search for synergistic balance national/*Aotearoa* wide. My definitions of the performativity/performance derivatives are listed in *Table 6.iib (Chapter 6)*.

APPENDICES 3.6a,b   THE RESEARCH PARTICIPANTS OF THE STUDY - FURTHER DETAILS

Appendices 3.6ai,ii,iii,iv,v   The environmental authority research participants - further details[108]

Appendix 3.6ai   The Ministry for the Environment research participants - further details

Interview number	Type of research participant	Type of research interview	Other details
1	Policy maker: (Key informant - *Māori* indicators)	- Telephone interview (includes a face to face meeting at MfE in 2001) - Follow up interview x 1	- Non-*Māori* - Social scientist (Masters level)
2	Policy maker/ team leader: (Key informant - EPI models)	- Telephone interview (includes a face to face meeting at MfE in 2001)	- Non-*Māori* - Scientist (Post-Doctorate level)
3	Policy maker: (Key informant - *Māori* indicators)	- Telephone interview (includes a face to face meeting at MfE in 2001) - Follow up interview x 1	- Non-*Māori* - Social scientist (Masters level)
4	*Iwi* liaison: (Key informant - *Māori* indicators)	- Telephone interview - Follow up interview x 1	- *Māori* - Scientist (PhD candidate)

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[108] The following appendices *(Appendices 3.6ai,ii,iii,iv,v)* present further details of the environmental authority research participants - as obtained from the research participant information forms and/or research interviews of the study.

Appendix 3.6aii   The Environment *Waikato* research participants - further details

Interview number	Type of research participant	Type of research interview	Other details
1	Policy maker: (Key informant - Scientific indicators)	- Personal interview - Follow up interview x 1	- Non-*Māori* - Scientist: (experienced practitioner, 25 years work experience) - Group manager - Main roles: Water quality, advice & research
2	Policy maker/ Team leader: (Key informant - EPI models)	- Personal interview - Follow up interviews x 3	- Non-*Māori* - Scientist/PhD: (experienced practitioner, 18years work experience) - Group manager - Key role: Indicator development
3	Policy maker: (Key informant - *Māori* indicators) * Contact of my Dad's	- Personal interview	- Non-*Māori* - Senior management: (experienced practitioner in *Iwi* liaison work)
4	Planner: (Key informant - Water indicators)	- Personal interview - Follow up interviews x 3	- Non-*Māori* - Social scientist (Masters level) - 5 years work experience under the RMA 1991 - Key role: Water planning
5	*Iwi* liaison: (Key informant - *Māori* liaison)	- Personal interview - Follow up interview x 3	- *Māori* - Social scientist (MBA student - experienced practitioner, 14 years work experience) - Key role: *Iwi* liaison (existing *Iwi* liaison officer)
6	*Iwi* liaison: (Key informant - *Maori* liaison) * Contact of my Dad's	- Personal interview - Follow up interview x 1	- *Māori (Tainui* affiliation) - Social scientist (Masters level) - Key role: *Iwi* liaison (Previous *Iwi* liaison officer)

Appendix 3.6aiii   The *Taupō* District Council research participants - further details

Interview number	Type of research Participant	Type of research interview	Other details
1	Planner: (Key informant - Indicators: Community development and indicators)	- Personal interview - Follow up interview x 1	- Non-*Māori* - Social scientist (Bachelors level) - Under-graduate planning background and work experience
2	Planner: (Key informant - Water planning)	- Personal interview	- Non-*Māori* - Social scientist (Masters level) - 5 years work experience as a planner
3	Planner: (Key informant - Indicators and *Māori* liaison)	- Telephone interview - Follow up interview x 1	- Planning consultant - Experienced practitioner in *Māori* liaison work
4	Policy maker/ team leader: (Key informant - River planning and management)	- Personal interview - Follow up interviews x 3	- Non-*Māori* - scientist (experienced practitioner, over 20 years experience)
5	*Iwi* liaison: (Key informant - *Māor*i liaison)	- Personal interview - Follow up interviews x 2	- *Māori: Ngāti Tuwharetoa* - Planner: (experienced practitioner)
6	*Iwi* liaison: (Key informant - *Māori* liaison) * Contact of my Dad's	- Personal interview - Follow up interviews x 2	- *Māori: Ngāti Tuwharetoa* - Experienced in *Iwi* liaison work
7	*Iwi* liaison: (Key informant - *Māori* liaison)	- Telephone interview	- *Māori: Ngāti Tuwharetoa* - Experienced in *Iwi* liaison work

Appendix 3.6aiv   The *Otorohanga* District Council research participants - further details

Interview number	Type of research Participant	Type of research interview	Other details
1	Policy maker: (Key informant - Water planning and management)	- Telephone interview - Follow up interview x 1	- Non-*Māori* - Scientist (Engineer by trade) - Experienced practitioner in *Iwi* liaison
2	Planner: (Key informant - District plan)	- Telephone interview - Follow up interview x 1	- Non-*Māori* - Key role in the development of the district plan
3	Planner: (Key informant - *Iwi* liaison)	- Telephone interview - Follow up interview x 1	- Non-*Māori* - Senior management role - Experienced practitioner in *Iwi* liaison
4	Planner: (Key informant - Community planning)	- Personal interview - Follow up interviews x 2	- Non-*Māori* - Social science background - Experienced practitioner in *Iwi* liaison
5	*Iwi* liaison: (Key informant - *Māori* liaison) * Contact of my Dad's	- Personal interview - Follow up interview x 2	- *Māori* - Working class background - Experienced practitioner in *Iwi* liaison
6	*Iwi* liaison: (Key informant - *Māori* liaison)	- Personal interview - Follow up interview x 1	- *Māori* - Science background - Experienced practitioner in *Iwi* liaison

Appendix 3.6av   The Thames-Coromandel District Council research participants - further details

Interview number	Type of research participant	Type of research interview	Other details
1	Policy maker: (Key informant - District plan/ policy)	- Personal interview - Follow up interview x 1	- Non-*Māori* - Planner by trade - Experienced practitioner
2	Planner: (Key informant - District plan/ policy)	- Personal interview - Follow up interview x 1	- Non-*Māori* - Planner by trade (Masters level) - Experienced practitioner/ consultant
3	Planner: (Key informant - district plan/ policy)	- Personal interview	- Non-*Māori* - Planner by trade - Experienced practitioner/ consultant
4	Planner: (Key informant - district plan/ policy)	- Telephone interview	- Non-*Māori* - Planner by trade - Experienced practitioner/ consultant
5	*Iwi* liaison: (Key informant - *Māori* liaison)	- Personal interview - Follow up interviews x 2	- *Māori: Ngāti Porou ki Harataunga* affiliation - Social work background
6	*Iwi* liaison: (Key informant - *Māori* liaison)	- Personal interview - Follow up interview x 1	- *Māori: Ngāti Porou ki Harataunga* affiliation - Experienced practitioner in *Iwi* liaison
7	*Iwi* liaison: (Key informant - *Māori* liaison)	- Personal interview - Follow up interview x 1	- *Māori* - Administration background - Experienced practitioner in *Iwi* liaison

Appendices 3.6bi,ii,iii   The *Māori* river community case study research participants - further details[109]

Appendix 3.6bi   The *Waitahanui* river community case study research participants - further details

Interview number	Type of research participant	Type(s) of Research interview	Other details
1	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* fishing and river management/ governance)	- Personal interview - River *hīkoi* x 2 - Follow up interviews x 4	- *Māori* fishing guide: Commercial operation - Lives locally - From the most well known *Māori* fishing *whānau* of the area
2	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga* and recreational activities)	- Personal interview - Follow up interview x 1	- *Māori kuia* - State sector work history - Lives locally - Brought up in *Waitahanui* - Currently employed in the social-community work sector - Spoke in both languages
3	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori kaumatua* - Lived all his life in *Waitahanui* - Fisherman - Retired
4	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview	- *Māori kaumatua* - Retired - Lives in *Taupō* - Holds a key *kaitiaki* role, through trustee positions on various local land trusts and organisations

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[109] The following appendices *(Appendices 3.6bi,ii,iii)* present further details of the *Māori* and non-*Māori* research participants - as obtained from the research participant information forms and/or research interviews of the study.

Interview number	*Type of research participant*	*Type(s) of Research interview*	*Other details*
5	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 2	- *Māori kaumatua* - Working class background - Holds a key *kaitiaki* role, through trustee positions on various local land trusts and organisations - Lived all his life in *Waitahanui* - Local representative for Treaty negotiations
6	*Māori kaitiaki:* (Key informant: *Tikanga,* river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori wahine,* woman - Lives locally - State sector worker - Brought up in *Waitahanui*
7	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori kuia* - University education - Lives locally - Brought up in *Waitahanui*
8	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 7	- *Māori kuia* - Lived all her life in *Waitahanui* - Working class background
9	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 3	- *Māori kaumatua* - Lived most of his life in *Waitahanui* - Working class background

Interview number	*Type of research participant*	*Type(s) of Research interview*	*Other details*
10	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* and river management/ governance)	- Personal interview - Follow up interviews x 3	- *Māori matua,* man - PhD candidate - Local representative for Treaty negotiations
11	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori kaumatua* - Lived most of his life in *Waitahanui* - Engineer by trade - Work history in senior management - Fisherman - Retired
12	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori kaumatua* - Lived most of his life in *Waitahanui* - State sector worker - Fisherman - Retired
13	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 3	- *Māori kaumatua* - Lived most of his life in *Waitahanui* - Businessman - Retired - Spoke in both languages
14	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga* and river management/ governance)	- Personal interview - Follow up interviews x 4	- *Māori kuia* - Senior management background - Retired - Active leadership role in the community
15	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori kaumatua* - Lived most of his life in *Waitahanui* - Working class background - Retired - Active leadership role in the community

Interview number	Type of research participant	Type(s) of Research interview	Other details
16	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 2 - River *hīkoi*	- *Māori kaumatua* - Life time in *Waitahanui* - *Māori* Fishing expert - Retired - Spoke in both languages - Lives close to the river
17	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* and river management/ governance)	- Personal interview - River *hīkoi*	- *Māori kaumatua* - Lived most of his life in *Waitahanui* - *Māori* fishing expert
18	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview	- *Māori kaumatua* - Lived all his life in *Waitahanui* - Builder by trade - Fisherman - Retired - Active leadership role in community
19	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview	- *Māori kaumatua* - Lived all his life in *Waitahanui* - Fisherman - Retired - Active leadership role in the community
20	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* recreation and river management/ governance)	- Personal interview	- *Māori kuia* - Lived most of her life in *Waitahanui* - Teaching background - Retired
21	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 3	- *Māori kuia* - Lived most of her life in *Waitahanui* - Working class background - Retired - Lives close to the river

Interview number	*Type of research participant*	*Type(s) of Research interview*	*Other details*
22	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation)	- Group interview *(Māori)*	- Held at the *marae* - Main topics: *tikanga,* pollution and fishing
23	*Māori kaitiaki:* (Key informant: River ecosystem *tikanga* and river management/ governance)	- Group interview *(Māori)*	- Held at my house in *Waitahanui* - Main topics: *Māori tikanga* and river management/ governance
24	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* and river management/ governance)	- Group interview *(Māori)*	- Held at my house in *Waitahanui* - Main topics: Fishing, recreation and river management/ governance)
25	*Non-Māori kaitiaki:* (Key informant: River ecosystem, fishing, recreation and river management/ governance)	- Personal interview (Non-*Māori*) - Follow up interviews x 2	- Businessman - Fisherman - Local community member
26	*Non-Māori kaitiaki:* (Key informant: River ecosystem, fishing, recreation and river management/ governance)	- Personal interview (Non-*Māori*) - Follow up interview x 1 - River *hīkoi*	- Businessman - Fisherman - Local community member
27	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, recreation and river management/ governance)	- Personal interview (Non-*Māori*) - Follow up interviews x 2	- Private business - Local community member - Environmentalist

Appendix 3.6bii   The *Harataunga* river community case study research participants - further details

Interview number	Type of research participant	Type(s) of Research interview	Other details
1	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* recreation, farming and river management/ governance)	- Personal interview - Follow up interviews x 4	- *Māori kuia* - Lived most of her life in *Harataunga* - Spoke in both languages - Working class background
2	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* recreation, farming and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori kaumatua* - Spoke in both languages - Lived most of his life in *Harataunga*
3	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* recreation, farming and river management/ governance)	- Personal interview - Follow up interviews x 2	- *Māori kaumatua* - Spoke in both languages - Lived most of his life in *Harataunga* - University education - Prominent leader
4	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* recreation, farming and river management/ governance)	- Personal interview - Follow up interviews x 7	- *Māori kaumatua* - Lived most of his life in *Harataunga* - Businessman - Prominent leader
5	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* recreation, farming and river management/ governance)	- Personal interview - Follow up interviews x 2	- *Māori kaumatua* - Working class background - Lived most of his life in *Harataunga* - Prominent leader

Interview number	Type of research participant	Type(s) of research interview	Other details
6	*Māori kaitiaki:* (Key informant: *Tikanga*, river management/ governance)	- Personal interview - Follow up interview x 8	- *Māori matua,* man - University education/Masters degree - Bureaucrat - Businessman - Recent local community member
7	*Māori kaitiaki:* (Key informant: river ecosystem, farming, *tikanga*, recreation and river management /governance)	- Personal interview - Follow up interview x 6 - River *hīkoi*	- *Māori matua,* man - Farmer - Lived most of his life in *Harataunga*
8	*Māori kaitiaki:* (Key informant: river ecosystem, farming, *tikanga*, recreation and river management /governance)	- Personal interview - Follow up interviews x 4	- *Māori kuia* - Lived most of her life in *Harataunga* - Teacher by trade
9	*Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga*, recreation and river management/ governance)	- Personal interview - Follow up interviews x 2 - River *hīkoi*	- *Māori kaumatua* - Lived most of his life in *Harataunga* - Prominent leader - Environmentalist
10	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga*, recreation and river management/ governance)	- Personal interview - Follow up interviews x 3	- *Māori wahine,* woman - PhD in *Māori* Health - Lived most of her life in *Harataunga* - Prominent leader
11	*Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga*, recreation and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori wahine,* woman - Lived most of her life in *Harataunga* - Working class background

Interview number	*Type of research participant*	*Type(s) of research interview*	*Other details*
12	*Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 4	- *Māori kuia* - Lived most of her life in *Harataunga* - State sector worker
13	*Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga,* recreation)	- Group interview *(Māori)*	- Held at the *marae* - Main topics: *tikanga,* pollution and river governance/ management
14	*Māori and non-Māori kaitiaki:* (Key informant: River ecosystem *tikanga* and river management/ governance)	- Group interview *(Mixed)*	- Held at the house of a key informant - Main topics: *Māori tikanga* and river management/ governance
15	*Māori and non-Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga,* and river management/ governance)	- Group interview *(Mixed)*	- Held at the *marae* - Main topics: Farming, recreation and river management/ governance
16	*Non-Māori kaitiaki:* (Key informant: River ecosystem, farming, recreation and river management/ governance)	- Personal interview (Non-*Māori*) - Follow up interview x 1	- Lived most of her life in *Harataunga* - Farmer - Active community involvement
17	*Non-Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga,* and river management/ governance)	- Personal interview (Non-*Māori*) - Follow up interviews x 5	- Retired - Active community involvement

Interview number	Type of research participant	Type(s) of research interview	Other details
18	*Non-Māori kaitiaki:* (Key informant: River ecosystem, farming, recreation and river) management/ governance)	- Personal interview (Non-*Māori)* - Follow up interviews x 2	- Lived most of her life in *Harataunga* - Retired - Working class background

Appendix 3.6biii   The *Oparau* river community case study research participants - further details

Interview number	Type of research participant	Type(s) of research interview	Other details
1	*Māori kaitiaki:* (Key informant: River ecosystem, *tikanga,* farming and river management/ governance)	- Personal interview - River *hīkoi* - Follow up interviews x 2	- *Māori kuia* - Childhood upbringing in *Oparau* - Lives in Hamilton - Prominent leader of the *rohe,* area
2	*Māori kaitiaki:* (Key informant: River ecosystem, farming, recreation and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori kaumatua* - Lives locally - Working class background - Retired - Spoke in both languages - Prominent leader
3	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, recreation and river management/ governance)	- Personal interview - Follow up interview x 3 - River *hīkoi*	- *Māori matua,* man - Childhood upbringing in *Oparau* - Lives locally
4	*Māori kaitiaki:* (Key informant: river ecosystem, farming, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interviews x 8 - River *hīkoi*	- *Māori matua,* man - Active community involvement - Lives locally - University Education/ Master's degree
5	*Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga,* recreation and river management/ governance)	- Personal interview - Follow up interview x 4	- *Māori kuia* - Teacher by trade - Lives in Hamilton
6	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga,* recreation and river management/ governance)	- Personal interview	- *Māori kaumatua* - University education - Active community involvement - Lives in Hamilton

Interview number	Type of research participant	Type(s) of research interview	Other details
7	*Māori kaitiaki:* (Key informant: River ecosystem, farming, *tikanga*, recreation and river management/ governance)	- Personal interview - Follow up interview x 1	- *Māori wahine,* woman - University Education, nurse by trade - Lives locally - Active community involvement
8	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga*, recreation and river management/ governance)	- Personal interview - Follow up interviews x 1	- *Māori kaumatua* - Science background - Lives locally - Active community involvement
9	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga*, recreation and river management/ governance)	- Group interview *(Māori)* - River *hīkoi*	- Held at the *marae* - Main topics: *Tikanga,* pollution and fishing
10	*Māori kaitiaki:* (Key informant: River ecosystem, fishing, *tikanga*, recreation and river management/ governance)	- Group interview *(Māori)*	- Held at the house of a key informant - Main topics: *Māori tikanga* and river management/ governance
11	*Non-Māori kaitiaki:* (Key informant: River ecosystem, farming, recreation and river management/ governance)	- Personal interview (Non-*Māori*) - Follow up interviews x 1	- Farmer - Local community member - Lived most of his life in *Oparau*
12	*Non-Māori kaitiaki:* (Key informant: River ecosystem, farming, recreation and river management/ governance)	- Group interview (Non-*Māori*)	- Held at the house of a key informant - Main topics: Pollution, farming and river management/ governance

Interview number	*Type of research participant*	*Type(s) of research interview*	*Other details*
13	*Non-Māori kaitiaki:* (Key informant: River ecosystem, farming, recreation and river management/ governance)	- Group interview (Non-*Māori)*	- Held at the house of a key informant - Main topics: Farming and river management/ governance.

APPENDICES 3.7a,b,c,d *UTU UTU* AND THE FOLLOW-ON STAGE - FURTHER DETAILS[110]

Appendix 3.7a Doctoral research planning and *utu utu* - a case example[111]

Part 1. Revised working immediate 3 month research plan A

Work period: 1 February**,** 2005 - 30 April, 2005

Key task: Re-submit Chapters 4 - 8
Other tasks:
- Rape court trial
- Revised plan B
- Recovery counselling sessions
- *Māori* community work and visits
- *Utu utu* participation in doctoral student meetings

Time period	*Tasks*	*Dates*
Feb 1 - 28, 2005	* Re-write Ch 4 - 5 - *Māori* community work/visit - Weekly counselling - PhD student meetings	*Feb 6:* Student meeting *Feb* Student meeting *Feb 25: 16:* Panel meeting *Feb 21:* Solicitor visit *Feb 23:* Community work/visit
March 1 - 31, 2005	* Submit Ch 4 - 5 * Re-write Ch 6 -7 - *Māori* community work/visit - Weekly counselling - PhD student meetings	*March 10-18:* Court trial *March 6:* Student meeting *March 12*: Submit Ch 4-5 *March 25:*Student meeting *March 30:* Community work/visit
April 1 - 28, 2005	* Re-write Ch 4 - 5 - *Māori* community work/visit - Weekly counselling - PhD student meetings	*April 6:* Student meeting *April 8:* Submit Ch 6-7 *April 22:* Student meeting *April16:* Supervision meeting *April 28:* Community work/visit

Key meeting dates:

Type of meeting:	*Date:*	*Key purpose:*
Chief supervisor & student	March 25, 2005	- Feedback Ch 4-5
Chief supervisor & student	April 25, 2005	- Feedback Ch 6-8

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[110]The following appendices *(Appendices 3.7a,b,c)* present further details of the reflexive practice of *utu utu,* reciprocation in the study. This relates to the follow-on stage of the *Māori* community case study fieldwork.

[111] *Utu utu* was timetabled into the follow-on stage of the *Māori* community case study fieldwork, as illustrated in the above case example of the research plan. Thus, both parts (Research plan A/February 1 - April 30, 2005 and Research plan B/May 1 - July 30, 2005) of this research plan were submitted to my doctoral supervisory panel on January 31, 2005.

Part 2. Revised working immediate 3 month research plan B

Work period: 1 May**,** 2005 - 30 July, 2005

Key task: Submit final full draft of thesis

Other tasks:
- Recovery counselling sessions
- *Māori* community work and visits
- *Utu utu* participation in doctoral student meetings

Time period	Tasks	Dates
May 1 - 28, 2005	* Submit full draft * Edit final draft - *Māori* community work/visit - Weekly counselling - PhD student meetings	*May 6:* Student meeting May 7: Submit full draft *May 23:* Student meeting *May 28:* Community work/visit
June 1 - 31, 2005	* Edit final draft - *Māori* community work/visit - Weekly counselling - PhD student meetings	*June 6:* Student meeting *June 12*: Re-submission *June 25:* Student meeting *June 30:* Community work/visit
July 1 - 28, 2005	* Edit final draft ? Research plan 3 and 4 - *Māori* community work/visit - Weekly counselling - PhD student meetings	*July 6:* Student meeting *July 12:* Re-submission *July 25:* Student meeting *July 28:* Community work/visit

Key meeting dates:

Type of meeting:	Date:	Key purpose:
Chief supervisor & student	March 18, 2005	- editing advice
Chief supervisor & student	May 27, 2005	- editing advice
Chief supervisor & student	June 30, 2005	- editing advice
Chief supervisor & student	July 15, 2005	- editing advice
Chief supervisor & student	July 25, 2005	- editing advice

Appendices 3.7bi,ii   *Utu utu* and the follow-on research initiatives/projects and funding applications of the study - further details[112]

Appendix 3.7bi   The *Māori*-Filipino development project (non-funded) of the study - background information[113]

Part 1.   Community consultation phase i. - internal notes and emails/case examples[114] (A,B)
A.[115]

Neil Ericksen

From:	KATARINA HEREMOANA,SIMON
Sent:	Tuesday, 2 March 2004 12:32 p.m.
To:	Peter Urich
Cc:	n.ericksen@waikato.ac.nz
Subject:	todays meeting minutes - Maori-Phillipino CDP

```
Kia ora Neil and Peter,
Enclosed todays meeting minutes for
your record and information as follows:

date: 2.3.04
time period: 10.30am - 12pm
present: Neil, Peter & Katie (special thanks to
Neil for attending)

Core focus: Kaupapa Maori model for Maori -
Phillipino Community development project
Key issues:
i. Report on progress of initial development of
KMM
ii. Explanation of supplementary information
iii. Action strategies (intellectual, practical & preparatory) for new KMM
Outcomes:
- Implementation of new KMM in two main stages -
i. Immediate: a/ kanohi ki te kanohi, Peter to visit asap
all maori communities (harataunga/ priority)
b/ Formation of Maori - Phillipino legal entity
ii. In-conjunction:
Continue with funding proposals & preparation of
Maori community visits
iii. IGCI report of Maori - Phillipino CDP, next Monday

In sum, the PhD KMM now needs further development into
a new KMM. My immediate advise is to move quickly into
the opportunity of access and interest, by Maori community visits asap (harataunga
priority, this week or next week). I also advise
the formation of a Maori-Phillopino legal entity as an unbrella group of overarching
endorsement, support and for better access to maori/ indigenous funding.

Look forward to hearing back from you Peter, when your ready.

naku noa, na

katie
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[112] The following Appendices *(Appendices 3.7bi,ii)* cover *utu utu* in the follow-on research initiatives/projects and funding applications of the study.   I acknowledge supervisor permission for the use of this material.

[113] The *Māori*-Filipino development project was a 2004 follow-on research initiative. The key aim here being to empower the *Māori kaitiaki* of the study, through an exchange of knowledge/information about *Māori* and Filipino environmental stewardship.

[114] In community consultation phase i, I consulted each *Māori* community case study in accompanied visits with either Peter Urich or Neil Ericksen.

[115] This email reports on the initial planning process that I undertook.

B.[116]

Maori/Filipino R & D

Neil Ericksen

From:	KATARINA HEREMOANA,SIMON
Sent:	Wednesday, 10 March 2004 9:50 p.m.
To:	Peter Urich
Cc:	n.ericksen@waikato.ac.nz
Subject:	Harataunga community visit - Maori-Fillipino community development project

```
Tena koe Peter,
Could you please check this follow up email from todays community consultation before
sending it to Harataunga community members - cheers.

Re: Harataunga community consultation visit/ Maori-Fillipino community development
project
Date: 10 March, 2004
Time period: 9.45 - 5pm

Summary:
Peter Urich and Katie Simon  visited a number of Harataunga community members to
consult re the idea of Harataunga community participation in a Maor-Fillipino
community development project. Overall, the idea was considered favourable. It was
also generally agreed that futher community consultation should be undertaken as soon
as possible. A date/time for the next community consultation visit was discussed and
confirmed as being on the day of Nat Potaes health and safety presentation - that is,
following his discussion. It is deemed appropriate that a more detailed action plan
will be included in the formal presentation of the Maori - Fillipino community
development project. In the interim, contact will be maintained via email & phone.

In conclusion, I would like to sincerely thank the people we visited today - your
support and advise was very much appreciated.


Arohanui,
Katie Simon
```

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[116] This email reports on a community consultation visit (phase i.) to the *Harataunga* river
community case study.

Part 2. Community consultation phase ii. - presentation[117]

Maori – Filipino
Community Development
Initiative

A first look . . .

Transferring of knowledge . . .

- Some background . . .the context of the
  Soil and Water Conservation Foundation
  and 'the model'
  – What is it?
  – Who started it?
  – An example and how it's going?
- What we propose as a starting point in
  Aotearoa/New Zealand
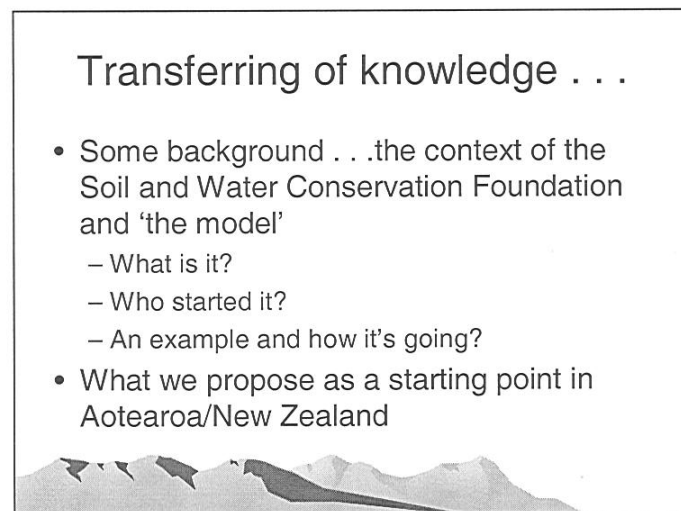
1

[117] In community consultation phase ii., further information was provided through a 14-slide presentation (prepared by Peter Urich) of the proposed project. For example, it was presented by Neil Ericksen and Katie Simon at *Waipapa marae*, *Kāwhia,* on Sunday April 18, 2004. I acknowledge supervisor permission for the use of this material.

PHILIPPINES

Bohol – an island province
Slightly smaller in area than Lake Taupo
1.2 million people

PUBLIC FOREST LANDS

☐ Public Forest Lands

～ Rivers
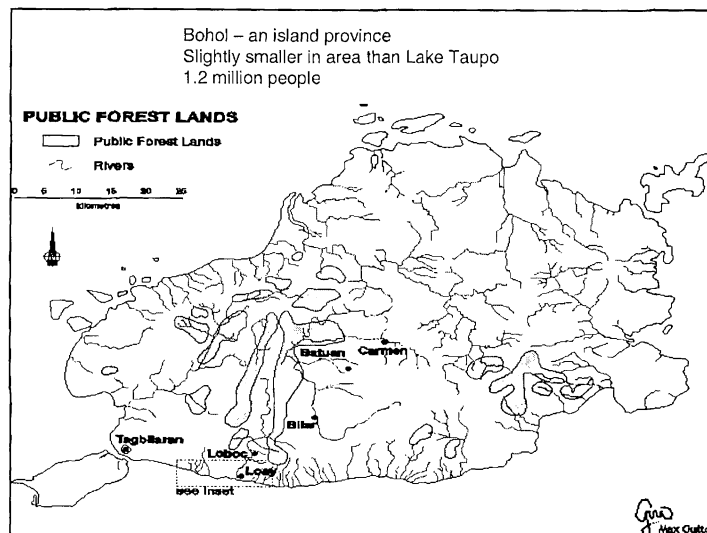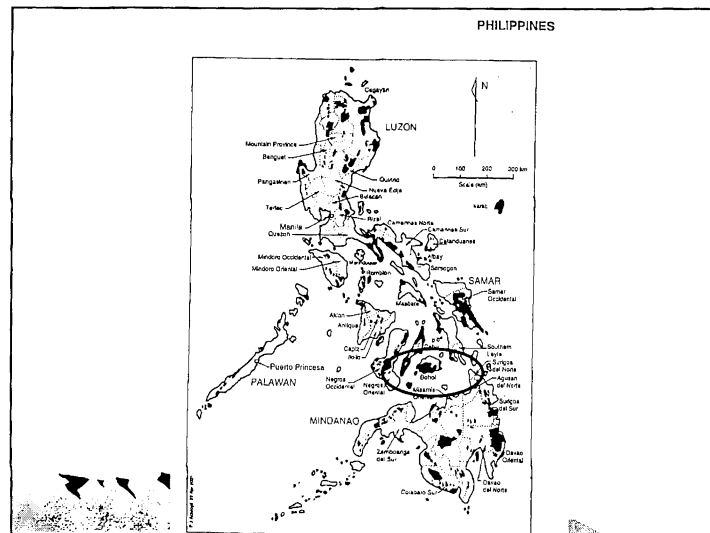
60 percent of people live on or near the coast and estuaries

Rice, corn, coconuts, bananas and pasture dominate in the interior

3

Deforestation and land degradation are problems in the interior while declining fish stocks are a critical issue on the coast

Declining fish catch of marginal fishers in Municipality of Loon, Bohol
Source: Adapted from Green et al. 2002: 4.
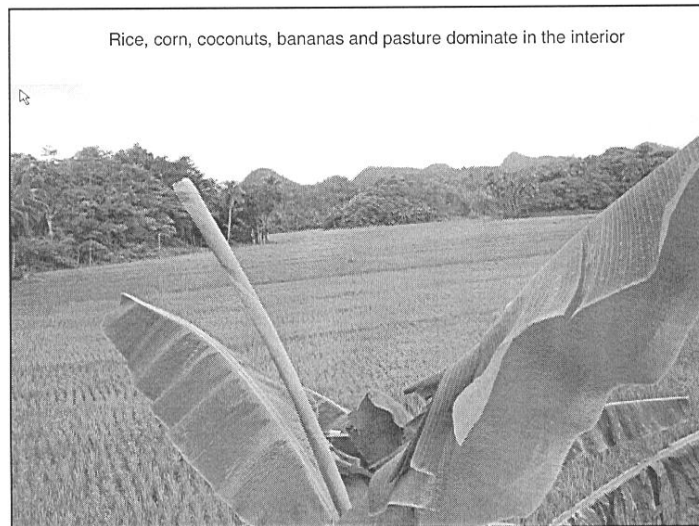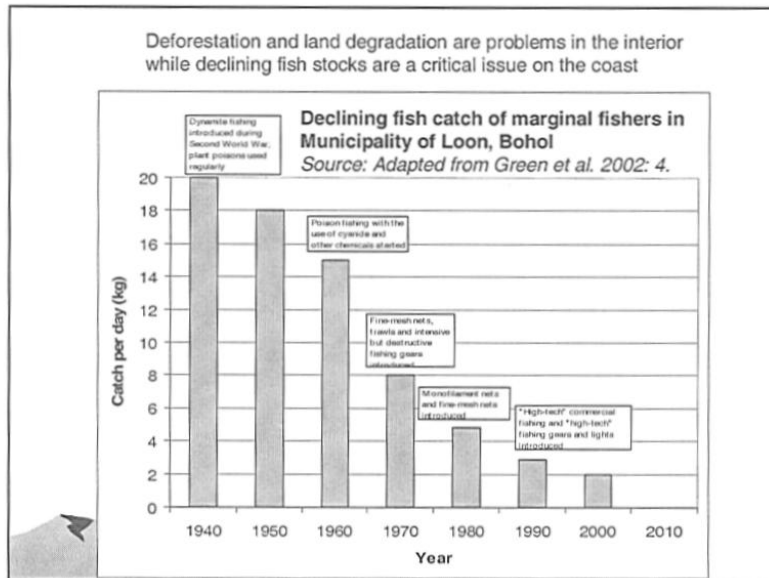
The Reality mid-1980s early 1990s

- Resource degradation – population growth
- Devolution – giving local authorities power to plan and provide services from a local perspective
- Reality – lack of resources and capacity to deliver
- Civil unrest – 500+ killed in internal conflict Boholano killing Boholano
- New development paradigm required – no assistance from the centre – no more handouts – self sufficiency the only way forward (from civil war)

4

Rise of the NGO movement

- 20,000+ formed in a decade (nationwide) (1985-1995)
- Handful doing meaningful, well designed and well implemented work

' *The development of an informal network of individuals of several nationalities concerned with the global ecological challenge' (1985-1988). Led to the formation of the Soil and Water Conservation Foundation in 1988.*

- New community development model tested and evolved over 15 years (and continues to this day)

Schematic 'Map' of an Alternative Community Development Model – Information Flow
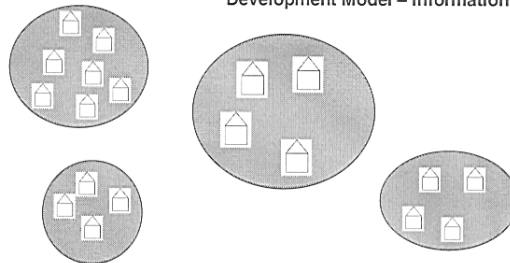
Stage One – Individuals and Communities Identified

Followed by consultation

5

Schematic 'Map' of an Alternative Community Development Model – Information Flow

Stage Two – Establish NGO and with community support, train and place 'technicians' within willing communities

Non-governmental organisation

Scehmatic 'Map' of an Alternative Community Development Model – Information Flow

Stage Three – NGO provides technician training, backstopping, links to funding etc.

Non-governmental organisation

6

Schematic 'Map' of an Alternative Community
Development Model – Information Flow

Stage Four – Network
expands to draw on other
expertise, backstopping

Non-governmental
organisation

Research
Support Agencies
Technical Assistance

Schematic 'Map' of an Alternative Community
Development Model – Information Flow

Non-governmental
organisation

Research
Support Agencies
Technical Assistance

7

Key Components

- Network – Soil and Water Conservation Foundation – Philippines +15 years experience in community development/sustainable resource management
- International Global Change Institute – New Zealand +10 years experience in collaborative research for development outcomes
- Linking Philippine experience with Maori experience with backstopping from a wider network
- Long term placement of 'technicians' in communities
- Flexibility and action-oriented activities
- Transparency, openness and global/local perspective cherished

Right Now – Who is Involved?

- Soil and Water Conservation Foundation
- International Global Change Institute
- Cornell University
- Leyte State University
- Central Visayas State College of Agriculture and Forestry Technology
- Governor of Bohol
- Line Agencies
- Individual researchers from around the world

8

It's about sharing information and communication

9
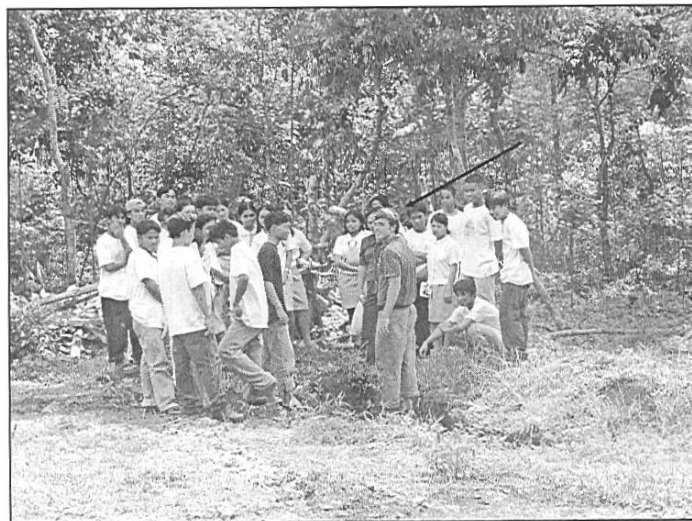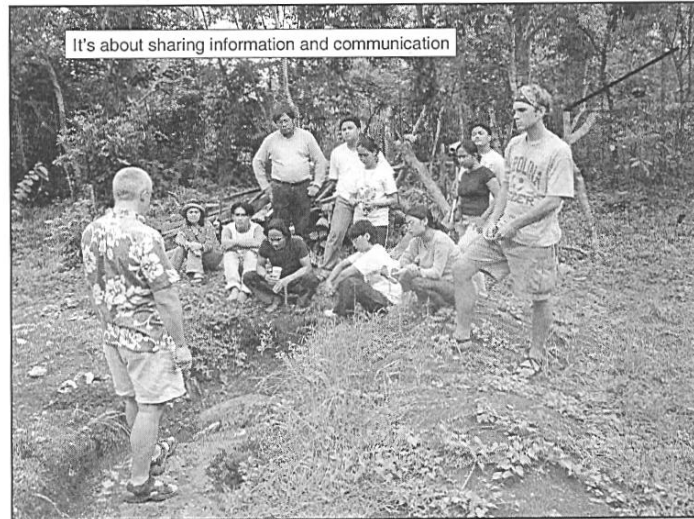
A second example . . .

- Identifying and responding to a community-defined need
- Limestone (karst) resource management
- Once need is identified a group is formed to tackle the issue and then extend knowledge

10

11

12
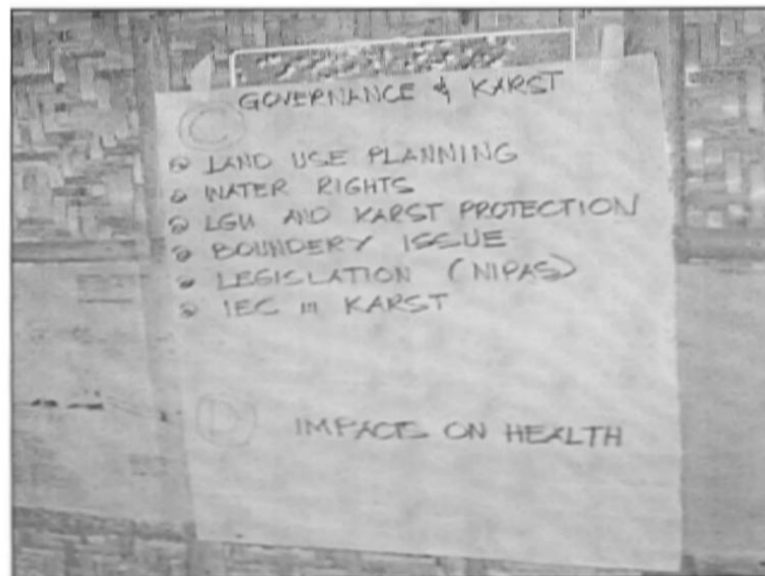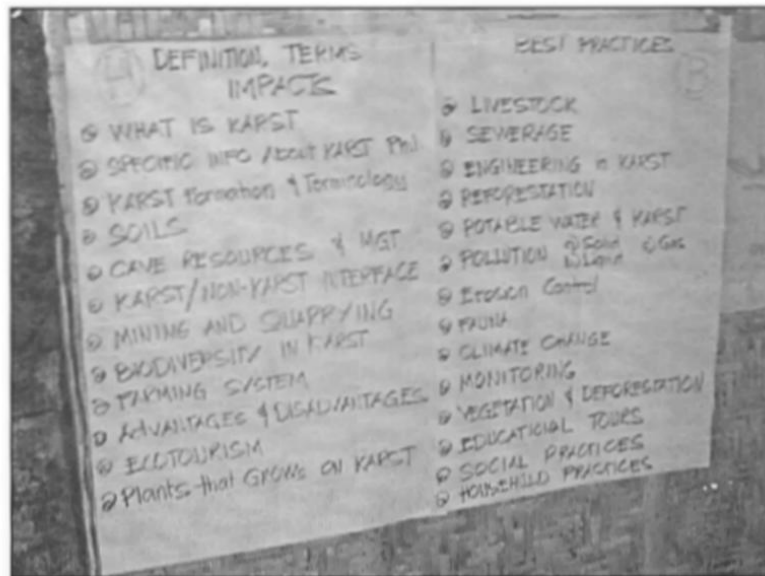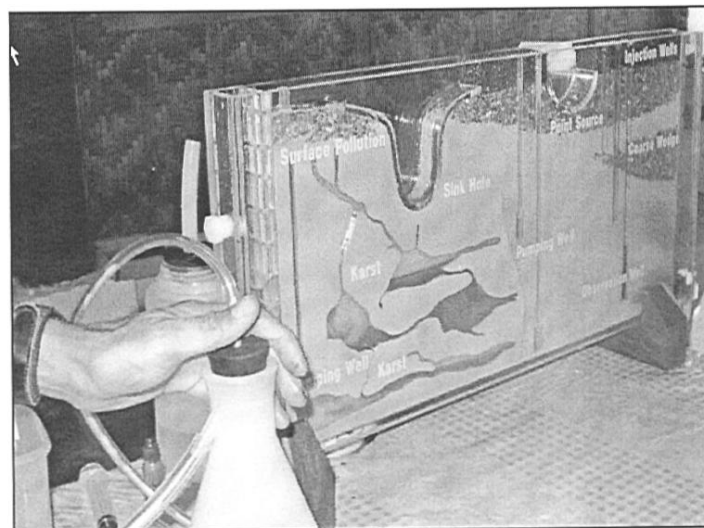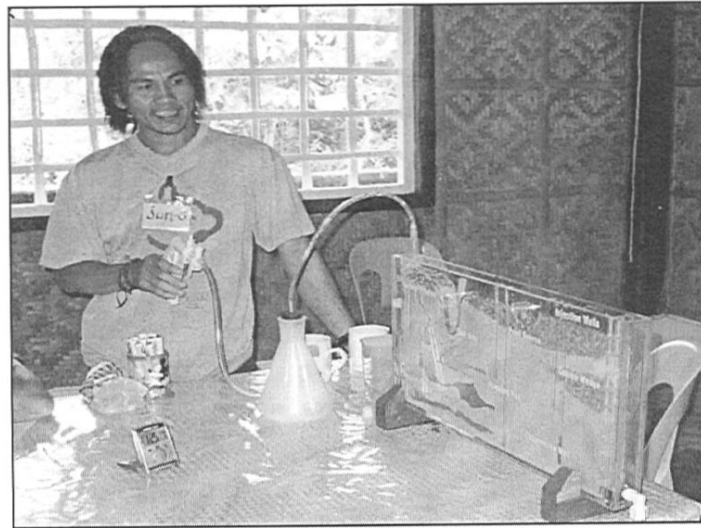
Proposal

- Small steps to start . . .
- A cross visit –Have SWCF staff come and visit you to discuss their model, learn about local issues
- Have people from here visit the Philippines and talk to people in communities there about experiencing the SWCF model.
- Second stage only if deemed appropriate

13

Who's involved thus far . . .

- Hauratanga river community
- Whaitahanui river community
- Te Whare Wananga O Awanuiarangi (Dr. Mere Roberts) (NZQA accreditation of technician training for community development)
- Wayne McLean at Raukura Hauora O Tainui
- IGCI
- Environment Waikato

Thank you.....

14

Part 3. Community consultation phase iii. - funding applications[118](A,B,C,D)
A.[119]

THE MAORI/FILIPINO
COMMUNITY DEVELOPMENT
TRUST

TRUST DEED
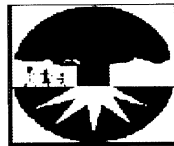
I hereby certify that this
is a true copy of the original
Trust Deed of the Maori/Filipino Community Development Trust

....
Chairperson

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[118] In the next phase (community consultation phase ii.), I focused on finding funding. I acknowledge supervisor permission for the use of this material.
[119] One approach entailed the setting up an umbrella organisation named 'The *Māori/*Filipino Community Development Trust'.

B.[120]

Neil Ericksen   *Kaupapa IGCI*

From:	KATARINA HEREMOANA,SIMON
Sent:	Tuesday, 23 March 2004 11:50 a.m.
To:	Peter Urich
Cc:	n.ericksen@waikato.ac.nz
Subject:	meeting with wayne maclean and admin/ KMM

```
Tena koe Peter,
Notes re todays meeting and admin issues
of Kaupapa maori model:
Meeting with Wayne -
- Confirm that Wayne has agreed to have his org act
as umbrella grp for TPK funding
- Note that you will follow up with correspondence re
admin issues
- I will follow up re future networking/ attendance hui, etc Other admin issues -
- note you have recieved KMM report, will forward letter
for you to sign re confirmation of working hours
- Other points mentioned to follow up:
i. My brothers email re information
ii. Collaborative abstract for FRST wananga/ profiling
.ii. Tuwharetoa Genesis application and Waikato ecological trust application

Also - can you email your timetable for the next coming two months so I can co-
ordinate return Maori community visits around when you may be available.

Cheers,


Katie
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[120] Another approach involved working under an already established organisation.

C.[121]

Tuwharetoa Genesis Group

Project
Application Form

Application Name: Waitahanui marae trustees committee	Address:
Contact Person: Katie Simons (Secretary)	
	Phone Number:
	Fax Number:
	Email Address:

Proposal Details
Title of Proposal: Information flow and community development for sustainable resource management and livelihood enhancement: evaluating the Soil and Water Conservation Foundation Community Development Model for application in Waitahanui, Aotearoa/New Zealand.
Purpose/Objective(s): 1] To build capacity in a Maori communities, as pilot case, for assessing the merits of a particular community development model.   2] To gain experience in community development through exposure to the application of a particular development model applied in indigenous communities in the Philippines.   3] To build capacity in a Maori community for defining what is appropriate for inclusion in a Maori community development model through hands on experience using the model through hui and engaging in *pulong-pulong* (dialogue for development) with government. Line agencies and communities in the Philippines.   4] To design a three to five year plan for structuring, funding and implementing a Maori community development model in consultation with Filipino indigenous groups and other stakeholders.

Is your application for:		
Environmental Enhancement Project	✓	
Cultural Enhancement Project	✓	
Scientific Study	✓	
Kaitikaitanga Project	✓	
(refer to the Key Objective for clarification)		

1

DRAFT ONLY   FOR DISCUSSION

Project Brief: (Detail your proposal and make reference to how your proposal meets the Group's objectives)

The stakeholders in all these activities will be the Maori communities of Waitahanui, Harataunga and Oparau, the four members of the Soil and Water Conservation Foundation Team, the overall coordinator of the hapu group and a representative of the Maori/Filipino Community Development Trust. Individual stakeholders are mentioned when they form a specific component of a particular hui, for example, the Aotearoa/New Zealand Ambassador to the Philippines, Terry Baker.

The focus of the capacity building project is a cross visit between stakeholders in Aotearoa/New Zealand and the Soil and Water Conservation Foundation of Cebu City, Philippines and the communities they work with in the Philippines. Details on the Soil and Water Conservation Foundation are provided in Appendix One. An explanation of the key components of the Soil and Water Conservation Foundation Community Development Model is provided in Appendix Two.

New Zealand Based Activities

Activity: 2 days community consultation. Community consultations, gaining access and acceptance to the concept of the cross visit for exploring community development initiatives.
Output: Interest and consent to proceed to acquire funding for the cross visits and the programme established in this proposal.

Activity: 1 day. Powhiri and hui for introduction of Soil and Water Conservation Foundation team comprised of four persons and Maori/Filipino Trust members.
Output: Trust building and agenda setting with rapid assessment of community resources and their historical development.

Activity: 1 day hui – discussing future plans (aspirations) in resource management and constraints to achieving resource management goals and aspirations through dialogue and experience sharing between SWCF a Waitahanui community.
Outcome: Understanding of the goals and aspirations and drawing of parallels with Philippine situation and experience with barriers.

Activity: 1 day hui – SWCF model and its role in overcoming barriers to resource management and aspirations being met and experiences from the Philippines and sharing with Waitahanui community.
Outcome: Understanding of the synergies and opportunities for collaboration on development a new model for community development.

Activity: 1 1/2 day hui x 3 communities – Assessment of the SWCF community development model (drawing three communities (two other communities to be funded from different donors) together for his hui).
Outcome: Critical assessment of the SWCF model in the context of the examples provided in river community hui.

Activity: 1 1/2 day hui – Agenda setting for reciprocal visit to the Philippines and pre-assessment of the Bohol province and SWCF community development activities.
Outcome: Questions to ask of community development leaders, non governmental

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2

DRAFT ONLY   FOR DISCUSSION

organisations and community beneficiaries of community development projects in Bohol province, Philippines.

Philippine Based Activities

Activity: 1 day *pulong-pulong* – Terry Baker, New Zealand Ambassador to the Philippines.
Outcome: Role of the New Zealand government in community development in the Philippines - lessons learned for application in Aotearoa/New Zealand.

Activity: 1 day *pulong-pulong* – Provincial Governor, Erico Aumentado and Provincial Planning and Development Coordinator, Nitz Cambangay.
Outcome: Understanding of the role non governmental organisations play in the Province's development agenda that focuses on poverty alleviation, sustainable livelihoods and sustainable resource management.

Activity: 2 day *pulong-pulong* – Central Visayas State College of Agriculture and Forestry Technology – role of academe in community development.
Outcome: Understanding of the role and support academic institutions can provide for communities attempting to develop their human and natural resources.

Activity: 3 day *pulong-pulong* – SWCF community development project beneficiaries. Discussion of the process undertaken when implementing the SWCF model in communities of Bohol.
Outcome: Assessment of the community development process and applicability for adoption/modification for Maori communities in Aotearoa/New Zealand.

Activity: 3 day *pulong-pulong* – Developing a Maori community development model based on lessons learned.
Outcome: Action plan for future Maori community development and roles to be played by the communities, SWCF, Maori/Filipino Community Development Trust.

Benefits: (who will the proposal benefit? How will the project outcomes be communicated to these people?)

The project will be a success if an agreement is struck between the Soil and Water Conservation Foundation of the Philippines and the Waitahanui river community of Aotearoa/New Zealand to work toward the development and implementation of a community development model that respects and meets the Maori community's needs and aspirations while building on the lessons learned by the Soil and Water Conservation Foundation in its more than 15 years of community development work. Moreover, success will be measured by the 'lessons learned' and documented through the cross visits. If it is found to be appropriate, a master plan for action extending for a three to five year period will be developed by the collaborative parties. This master plan will form the foundation for applications for further funding.

Outputs:

1] Reports of hui and community development experience sharing for each community.
2] Report on the structure of the Soil and Water Conservation Foundation Community

3

DRAFT ONLY   FOR DISCUSSION

Development Model in the Philippines and Aotearoa/New Zealand context.
3] An action plan for moving the pilot project forward over a three to five year period.
4] Final report on activities, lessons learned and future activities.

Work Plan: (When will the project start and finish? What stages are there? Who will be involved at what stages?)

Stage One

Collaborative planning for cross visits – establish expectations of each stakeholder group and clarify objectives, purposes and obligations.
Determine individual participants for the actual cross visit and arrange for all relevant paperwork (passports etc) to be obtained.
Choose mutually agreeable dates for the cross visit preferably within the next three months.

Staff of International Global Change Institute and communication with staff of the Soil and Water Conservation Foundation and the members of the Waitahanui community acting as equal partners in implementing this project.

Stage Two

Have Philippine contingent visit New Zealand for two weeks for interaction
Have Maori contingent visit the Philippines for two weeks for interaction with communities there and to discuss with community members their experience with this type of community development model. Same stakeholders involved as in stage one of the project but with input from the communities in Bohol Province, Philippines.

Stage Three

Consult on the positive and negative aspects of the Soil and Water Conservation Foundation community development method and if feasible adapt from the method an approach for application in Maori communities such as Waitahanui in Aoteraroa/New Zealand.

Complete reports and action plan for Maori community development based on the cross visits.

Detailed costing: (What will be the cost of the resource required i.e stationary, labour, hire/purchase of equipment, contractors etc? Is there an ongoing cost? If so, what?)

SWCF Director/Coordinator $450/day x 5 days	$2200
SWCF Education Specialist $450/day x 5 days	$2200
SWCF Community Specialist $350/day x 5 days	$2200
SWCF Community Specialist $300/day x 5 days	$2200
Maori/Filipino Community Development Trust Coordinator $450/day x 5 days	$2200
IGCI Community Development Specialist $450/day x 5 days	$2200
Per diems (4 people @ $100/day/5 days in Aotearoa/ New Zealand and 3 people @$60/day/10 days in the Philippines)	$3800

4

DRAFT ONLY   FOR DISCUSSION

Ground transport: (Van rental in NZ for 5 days weeks and Van Rental in the Philippines for 10 days)	$2100
Petrol(For van used in NZ and Philippines):	$350
Visas, taxes Visas $30 each for Philippines, exit tax in Philippines):	$285
Phone, fax, postage (postage for obtaining visas, phone/fax for organising travel)	$150
Venue hire for Hui X 3	$450

Have you sought or are you seeking funding for this proposal from other organisations? (If so, from who and how much?)

Yes, Environment Waikato	$2000
Yes, Te Puni Kokiri	$65,000

List any other groups or organisation who are/or may become involved in this project: (Provide written evidence where possible)

Harataunga river community
Oparau river community
International Global Change Institute
Te Whare Wananga o Awanuiarangi
Environment Waikato

Additional information of relevance:
Name of organisation: Waitahanui marae trustees committee

Postal Address: PO Box 1054,
Taupo

Physical Address: Waitahanui marae, State Highway One,
Waitahanaui

Registered Address: PO Box 1054, Taupo

Phone: 07-859-3922   Fax: 07-858-5689
Email: khs1@waikato.ac.nz

Hapu endorsement is attached.

Before submitting your application:
- Ensure you have met the application criteria

5

D.[122]

Draft only   *For discussion*

TE PUNI KOKIRI
CAPACITY BUILDING FUNDING APPLICATION
HAURATANGA, WAITAHANUI, OPARUA

Section 1: Contact details (Please complete the following for the main contact person in your organisation/roopu)
Name: Katie Simon   Designation: Director
Phone: 07-859-3922   Mobile:
Email: khs1@waikato.ac.nz
Section 2: Organisation/Roopu details (Please complete the following details about your organisation/roopu)
Name of organisation: Maori/Filipino Community Development Trust
Postal Address: 205 Silverdale Road, Hamilton
Physical Address: 205 Silverdale Road, Hamilton
Registered Address: 205 Silverdale Road, Hamilton
Phone: 07-859-3922   Fax: 07-858-5689
Email: khs1@waikato.ac.nz

1

Activity: 1 day hui x 3 communities – visioning activity conducted by SWCF in collaboration with hapu.
Outcome: Understanding of the visioning process and outputs of the visioning exercise that forms the foundation for future community development agenda setting.

Activity: 1 day hui x 3 communities – Strengths, weaknesses, opportunities, threats analysis conducted by SWCF in collaboration with the hapu.
Outcome: Understanding of the SWOT analysis process and exposure of the hapu to its strengths, weaknesses, opportunities, threats.

Activity: 1 1/2 day hui x 3 communities – Assessment of the SWCF community development model (drawing three communities together for his hui).
Outcome: Critical assessment of the SWCF model in the context of the examples provided in visioning and SWOT hui.

Activity: 1 1/2 day hui – Agenda setting for reciprocal visit to the Philippines and pre-assessment of the Bohol province and SWCF community development activities.
Outcome: Questions to ask of community development leaders, non governmental organisations and community beneficiaries of community development projects in Bohol province, Philippines.

Philippine Based Activities

Activity: 1 day hui – Terry Baker, New Zealand Ambassador to the Philippines.
Outcome: Role of the New Zealand government in community development in the Philippines - lessons learned for application in Aotearoa/New Zealand.

Activity: 1 day hui – Provincial Governor – Erico Aumentado and Provincial Planning and Development Coordinator Nitz Cambangay.
Outcome: Understanding of the role non governmental organisations play in the Province's development agenda that focuses on poverty alleviation, sustainable livelihoods and sustainable resource management.

Activity: 2 day Hui – Central Visayas State College of Agriculture and Forestry Technology – role of academe in community development.
Outcome: Understanding of the role and support academic institutions can provide for communities attempting to develop their human and natural resources.

Activity: 3 day Hui – SWCF community development project beneficiaries. Discussion of the process undertaken when implementing the SWCF model in communities of Bohol.
Outcome: Assessment of the community development process and applicability for adoption/modification for Maori communities in Aotearoa/New Zealand.

Activity: 3 day Hui – Developing a Maori community development model based on lessons learned.
Outcome: Action plan for future Maori community development and roles to be played by the communities, SWCF, Maori/Filipino Community Development Trust.

2

What group(s) will benefit most from this project?	Whanau	Kaumatua/Kuia
	Hapu	Marae
	Wahine	Rangatahi
	Unemployed	

How will you measure the success of your project? (eg more whanau are becoming involved in the collective vision; local tourist operators are interested in joint-ventures; a clear and collective plan for the next three years is accepted).

The project will be a success if an agreement is struck between the Soil and Water Conservation Foundation of the Philippines and the Hauratanga hapu to work toward the development and implementation of a community development model that respects and meets the community's needs and aspirations while building on the lessons learned by the Soil and Water Conservation Foundation in its more than 15 years of community development work. Moreover, success will be measured by the 'lessons learned' and documented through the cross visits. If it is found to be appropriate a master plan for action extending for a three to five year period will be developed by the collaborative parties. This master plan will form the foundation for applications for further funding.

How long will it take to carry out the project? (Note: this is an estimate only and used for recording purposes. It does not commit your organisation/roopu to completing the project within the estimated timeframe)

0 to 6 months – to be completed before September 2004

3

Project Budget (GST inclusive)		
Venue hire: $200/day x 12 days (for hui and consultative meetings, including pens, pencils, papers and audio visual equipement)		$2400
Workshops (visioning and SWOT analysis) 30 people x 2 days $1000/day x 6 days (fees for facilitation of visioning and SWOT analysis activities, materials and report writing)		$6000
Pre cross visit consultations 2 people x 6 days (2 day per community) Trust Coordinator @ $850/day and Hapu Coordinator @ $700/day		$9300
Trust Coordinator $850/ day x 24 days		$20400
Hapu Coordinator $700/day x 24days		$16800
SWCF Director/Coordinator $450/day x 24 days		$10800
SWCF Education Specialist $450/day x 24 days		$10800
SWCF Community Specialist $350/day x 24 days		$8400
SWCF Community Specialist $300/day x 24 days		$7200
Phone, fax, postage phone/fax for organising		$300
Total amount requested from Te Puni Kokiri		**$90400**
Contribution from your organisation/roopu (cash or in kind)		$20208
Contribution from other sources (Where applicable. please list the other sources and the amount and their contribution.) **Agency:** Environment Waikato		$2000
	Total	**$20986**

4

Part 4. Conclusion - My withdrawal from the project[123] (A,B)
A.[124]

To: PhD river communities
From: Katie Simon
Re: Maori/Filipino community development project
Date: 8. 6. 04

Tena koutou katoa,
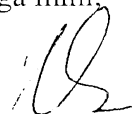
i. Due to PhD writing deadlines, family workload and other community work commitments, I wish to advise of my withdrawal from the Maori/Filipino community development project.

ii. Enclosed is an update about the present state of the proposed project. It is sent from the lead community development worker, Peter Urich – for your record and consideration

iii. As per the information provided, Peter Urich and Neil Ericksen of The University of Waikato, will be the key contact people for any further enquiries you may have about this intended venture – their contact details are on the update information provided.

iv. My sincere thanks and appreciation for allowing further access and participation with te ahi ka. However, for now I can only primarily deal with looking after my children and completing the PhD. My best wishes and I will endeavour to keep in contact in the future.

Nga mihi,

Katie Simon

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[123] I withdrew from the project on 8 June, 2004.
[124] Correspondence was sent out regarding my withdrawal. I acknowledge supervisor permission for the use of this material.

B.[125]

THE INTERNATIONAL GLOBAL CHANGE INSTITUTE
TE WĀNANGA O NGĀ RERE KĒTANGA-A-TAIAO

DR. PETER URICH
DIRECTOR: INTEGRATED PLANNING AND
GOVERNANCE FOR SUSTAINABLE COMMUNITY
DEVELOPMENT PROGRAMME

The
University
of Waikato
*Te Whare Wānanga
o Waikato*

THE UNIVERSITY OF WAIKATO
PRIVATE BAG 3105, HAMILTON
NEW ZEALAND

PHONE: +64 7 8585626; FAX: +64 7 8585689
EMAIL: pbu@waikato.ac.nz
WEB: http://www.waikato.ac.nz/igci/

5 June 2004

Update on the Māori – Filipino Development Project

After an initial flurry of activity in conducting consultations and developing proposals things have slowed down. This does not mean that they have come to a stop. I wish to review where we are at this point, in general terms and what is required over the next couple of months.

Briefly, Katie, me and/or Neil has been to each of the river communities to conduct initial and in some cases more far reaching consultation. In all cases there has been a positive voice emerging. More consultation is required in some communities and this will need to wait until Professor Ericksen returns from Viet Nam and Laos. He is expected next week and over the second half of June and into early July, if timing is right for the communities, we would like to jointly (Neil and I) complete the first phase of consultations.

I (Peter) was away to the Philippines for a couple of weeks (before Neil's departure) and during the course of other project activities I did speak to our potential collaborators at the Soil and Water Conservation Foundation. It was clearly articulated to me that they are behind the initiative but they cannot hope to be fully involved until at least September or possibly later. They have some large European Union projects just getting underway with communities in the Philippines and this is soaking up all their time. I did secure the signatures of Bill Granert, Aida Granert and Condring Brigoli on the Trust document that is being developed for this project.

Katie and I have talked with Peter Uerata at Te Puni Kōkiri and he suggested that we talk to Wayne McLean of Raukura Hauora O Taninui for backing of our proposal. Wayne agreed that they would be involved in assisting with managing any funds procured for the activity. This is an important outcome which allows us to move forward with confidence in the area of funds management.

I wish to close by emphasising that the lack of recent interaction in no way signals a lack of interest on behalf of the Soil and Water Conservation Foundation or the International Global Change Institute. We are approaching this project slowly and with what we hope is appropriate consultation so as to build mutual respect and collaborative ties that can endure over the long term. Unfortunately, other activities also get in the way, for the communities and for us. With time we will overcome these hurdles.

As they say in the Philippines – Kusog ang mayong tao –bitow. More power to you!

Warmest regards,

Peter

IGCI- AN INTERDISCIPLINARY RESEARCH AND TEACHING INSTITUTE FOCUSING ON THE HUMAN DIMENSIONS OF GLOBAL ENVIRONMENTAL CHANGE

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[125] Further correspondence followed. I acknowledge supervisor permission for the use of this material.

Appendix 3.7bii   Other non-funded projects/initiatives and funding applications - further details[126]

Part 1. The *Waitahanui* water treatment plant resource consent[127] - background information[128]

Part 1a. Advertising documentation - a case example (A,B,C)[129]

A.[130]
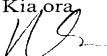
To: Les Wall
From: Katie Simon
Re: WWTP application - trustee advertisement
Date: 2. 4. 05
_____

Tena koe Uncle Les,

i. Could you please check the following:

URGENT NOTICE from the Waitahanui marae trustees
Topic: Waitahanui Water Treatment Plant Resource
            Consent
Purpose: Community consultation hui
Date: Wednesday April 13, 6pm
Enquires: Les Wall (chairperson), 07/ 3784363
Please bring a plate
ALL WELCOME

ii. Will organise for Tuesday 5 April advertisement in Taupo Times, what about a reminder notice on Tuesday 12 April? Please advise.

Kia ora,

Katie
Ph: 07/ 8585629 (wrk)
Hm: 07/ 8593922
Fax: 07/ 8585689

P S   I'm at work if you want to phone

Our fax here is   07/8585689

* Approved / phone call   8.45pm 2/4/05

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[126] *Utu utu* was also undertaken in a number of other non-funded projects/initiatives and funding applications *(Appendix 3.7bii).*

[127] In my voluntary capacity as secretary of the *Waitahanui marae* trustees, many non-funded hours went into community consultation *hui* (6) and liaison work (2003 - 2007) for the *Waitahanui* water treatment plant resource consent.

[128] In this initiative, my work included administering the consultation *hui* (for example, organising the advertising - *Part 1a),* writing up the meeting minutes *(Part 1b),* practical duties *(Part 1c)* and participating in *Māori* liaison meetings *(Part 1d).*

[129] For example, I organised the advertising documentation. I acknowledge local trust permission for the use of this material.

[130] This involved constant cross-checking with the chairperson of the trust.

B.[131]

URGENT NOTICE
from the Waitahanui marae trustees

Topic: Waitahanui Water
         Treatment Plant
         Resource Consent
Purpose: Community
         consultation hui
Date: Wednesday April
         13, 6pm
Venue: Waitahanui marae
Enquiries: Les Wall
         Ph: 3784363

Please bring a plate
ALL WELCOME

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[131] The above flyer was disseminated in this project. I acknowledge local trust permission for the use of this material.

C.[132]

Waitahanui marae trustees consultation hui:28.4.05
WWTP Consent: Meeting format

1. Introduction (10 mins)
- *Karakia*
- *Overview: guest speakers*

2. Presentations (50 - 60 mins)
i. Brent Fletcher (EW): Review of consent

ii. John Hadfield (EW): Water Quality

iii. Urlwyn Trebilco (EW): Policy issues

iv. Mike Keys (TDC): District position

3. Discussion (as required)
*Suggested framework of topics/timings

i. Consent process: Functions and roles of EW &
TDC (10-15mins)

ii. Application history and the RMA process
(30 mins)

iii. Water Quality: Groundwater impacts, nitrogen
issues & Lake Taupo
(25 mins)

iv. Recent events: Where to from here? (25 mins)

4. Conclusion (as required)
- *Karakia*
- *Refreshments*
- *Informal discussion*

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[132] This handout was distributed in the project. I acknowledge local trust permission for the use of this material.

Part 1b. Meeting minutes - a case example[133]

Waitahanui Marae Trustee Consultation Hui Meeting Minutes
Topic: Waitahanui Water Treatment Plant (WWTP) - resource consent

Date: Wednesday 13 April, 2005
Venue: Waitahanui marae

Present: *Whanau* - see attached register, *Trustees:* Les Wall, Ann Clarke, Barbara Tahau, Ngawaka Wall, Katie Simon, and Mihikotukutuku Stirling

Time Period: 6-7pm
Meeting opened: 6pm

Karakia: Ann Clarke

1. Introduction: (Chair)
- Overview of WWTP resource consent
- Key points:
i. Extension of re-issuing process
ii. Consultation concerns - immediate priority: public hui with Brent Fletcher (resource consent planner/policy maker)
iii. Marae trustees role as submitter- advocatory

2. Discussion points:

i. P. Clarke (on behalf of Tauhara Middle 14 Trust/TMT) -
- Background explanation and overview (report enclosed)
- Initial consultation hui (consultancy group), follow up with RMA committee at Kokiri Centre and Waipahihi - turned down the consultancy report that advocated support for the treatment plant

ii. R. Wall -
- Question: Why is the business of Waitahanui being held at Waipahihi?
- Reiterated concern regarding the externalisation of community environmental concerns (general discussion)
- P. Clarke explains the background of the Waipahihi meeting

iii. L. Wall -
- Poses: How do we move forward?: A group decision
- Suggests community consultation meeting with Brent Fletcher and district council representative as the next important step

iv. T. Tahau -
- Concerns on the activities of the WWTP/general discussion
- Other options /TMT: no land available for sprinkler disposal systems & existing dispersal system at Mototaike Rd filled to capacity

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[133] These draft meeting minutes were prepared in the project. I acknowledge local trust permission for the use of this material.

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v. E. Symmonds -
- Discussion on the oppositions to the WWTP: questions needing to be answered by B. Fletcher, follow up at upcoming hui

vi. P. Clarke -
- Reiterates and explains TMT initial support and endorsement of WWTP re vision of enhanced development for our people
- Notes changes from the beginning vision proposed, however emphasis the support from TMT
- Suggests listening to the experts, rather than being totally oppositional

vii. H. Karaitiana -
- Emphasises the following point from a TMT meeting on 18 September, 1985: 'that an area of 2500 sq metres be sold to the Taupo County Council for the purpose of the sewage treatment plant to support the Waitahanui housing project/WHP' importantly noting that the WWTP was not intended to go beyond the WHP
- Initial understanding of WWTP for the purpose of subdivision
- Suggests a breach of trust has occurred, only alternative to stand in opposition: suggests an opposing letter is written
- Other TMT trustees (J.Wall, E Symmonds and P.Clarke) support investing the matter further
- P.Clarke notes that a full power of authority was initially given - a concern to be followed up, internally within the TMT

viii. W. Wall -
- Reiterates his opposition, rest of group in general agreement
- Lastly, call for movement forward

3. Conclusion: (Chair)
- summary of the problem and final explanation of impending follow up hui

Meeting closed: 7pm
Karakia: R. Wall

Minutes certified as correct: Chairperson

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Part 1c. Practical duties - a case example[134]

KATARINA HEREMOANA,SIMON

From:	KATARINA HEREMOANA,SIMON	**Sent:** Tue 4/26/2005 5:29 PM
To:	Brent Fletcher	
Cc:		

Subject: RE: EWDOCS-#992306-v1-Comments_for_Hui_on_28th_April.DOC

Attachments: 1a.rtf(152KB)

Tena koe Brent,

Enclosed panui for meeting - please advise of any corrections.

Have briefed the chair re todays events - all ok with him, also panui
faxed to him today.

As mentioned, suggest you phone me at the marae when you are closeby:
my cell phone is: 0210770196

Directions to Waitahanui marae:

Drive through Waitahanui township, past Northcroft St.
Turn right at the second to last roadway on the right side of SH1 - that is,
driving south, just before the steep incline to Turangi.

Drive down a small incline past the holiday home park to your right.
In front you will see a large field, houses straight ahead and as you veer to the right
you will see the marae at the rear (near the lakefront).

Drive to the front of the gateway (horrizontal to your advance foward): Please park on the field next
a small doorway at the left hand side.

I will meet you there, and ascort to the hall.

Unless hear otherwise, look forward to your phone call on Thurs.

Nga mihi nui,
Katie Simon

-----Original Message-----
From: Brent Fletcher [mailto:Brent.Fletcher@ew.govt.nz]
Sent: Tue 4/26/2005 3:31 PM
To: KATARINA HEREMOANA,SIMON
Cc:
Subject: EWDOCS-#992306-v1-Comments_for_Hui_on_28th_April.DOC

Katie

Please see attached draft of meeting format.

http://webmail2k.waikato.ac.nz/exchange/khs1/Sent%20Items/RE:%20EWDOCS-#99230...   4/26/2005

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[134] Email correspondence - case example 1 concerning practical matters of the project. I acknowledge regional council permission for the use of this material.

Part 1d. *Māori* liaison meetings - a case example[135] (A,B,C)
A.[136]

KATARINA HEREMOANA,SIMON

From:	KATARINA HEREMOANA,SIMON	**Sent:**Tue 4/26/2005 11:05 AM
To:	Brent Fletcher	
Cc:		
Subject:	todays korero: from Katie Simon	
Attachments:		

[handwritten: 1 ?–11 am meeting]

Hi Brent,

Good to meet today - cheers for morning tea!

As mentioned, I'll type up a meeting format framework and
staple with the minutes.

If you could advise of your presentation outline: general topics,
speakers and time framework please, would apprecaite that.

Any other assistance you require, please let me know/ not a problem.

Best,
Katie

-----Original Message-----
From: Brent Fletcher [mailto:Brent.Fletcher@ew.govt.nz]
Sent: Thu 4/21/2005 2:07 PM
To: KATARINA HEREMOANA,SIMON
Cc:
Subject: RE: next consultation hui: from Waitahanui marae trustees

Katie,

Thanks for the reply and instruction. See you Tuesday.

Brent

****
This email is not an official statement of Environment Waikato
unless otherwise stated.
Visit our website http://www.ew.govt.nz
****

http://webmail2k.waikato.ac.nz/exchange/khs1/Sent%20Items/todays%20korero:%20from   4/26/2005

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[135] Email correspondence - case example 2 concerning practical matters of the project.
[136] I acknowledge regional council permission for the use of this material.

B.[137]

KATARINA HEREMOANA,SIMON

From:	Brent Fletcher [Brent.Fletcher@ew.govt.nz]	**Sent:**Tue 4/26/2005 3:31 PM
To:	KATARINA HEREMOANA,SIMON	
Cc:		
Subject:	EWDOCS-#992306-v1-Comments_for_Hui_on_28th_April.DOC	

Attachments: EWDOCS-#992306-v1-Comments_for_Hui_on_28th_April.DOC(91KB)

Katie

Please see attached draft of meeting format.

I have also attached some of my own comments that I will use to assist with the meeting.
These could be pre-circulated if you think that it will assist or perhaps just the summary, leaving it up to me to present the detail at the meeting.

Please do what you think is required.

Urlwyn Trebilco can know attend which is a good bonus considering he is well versed about the Nitrogen issues with the lake. He also knows the RMA process well. He will not address the meeting as John Hadfield and I intend to do but will be there to respond to questions provide assistance where required.

When the version for the meeting is ready could we also send a copy to Mike Keys for his information. He is away today but will need to know what is involved so he can prepare. Thanks.

Finally, I forgot to get a copy of the minutes from the last Waitahanui Hui where the wastewater plant was discussed. Could it be faxed to me if not too much trouble? (07 859 0998). If you are busy doing non Waitahanui things then it does not matter.

Thanks for this morning it helped immensely.

<<EWDOCS-#992306-v1-Comments_for_Hui_on_28th_April.DOC>>

Brent.

****
This email is not an official statement of Environment Waikato
unless otherwise stated.
Visit our website http://www.ew.govt.nz
****

httn://webmail2k.waikato.ac.nz/exchange/khs1/Inbox/EWDOCS-#992306-v1-Comments   4/26/2005

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[137] Email correspondence - case example 3 concerning practical matters of the project. I acknowledge regional council permission for the use of this material.

C.[138]

KATARINA HEREMOANA,SIMON

From:	John Hadfield [John.Hadfield@ew.govt.nz]	**Sent:**Fri 4/29/2005 11:44 AM
To:	KATARINA HEREMOANA,SIMON	
Cc:		
Subject:	School wchem	

Attachments: 📄 360528.pdf(235KB)

Hi Katie - thanx so much for your facilitation of yesterdays meeting. I've attached the latest water chem that we have for Waitahanui School. It is very comprehensive including pesticide analysis. There is nothing in the analysis which would indicate any problem. I'd be interested to know detail of the concern e.g. is there a taste issue?

regardz
john

<<360528.pdf>>

****
This email is not an official statement of Environment Waikato
unless otherwise stated.
Visit our website http://www.ew.govt.nz
****

http://webmail2k.waikato.ac.nz/exchange/khs1/Inbox/School%20wchem.EML?Cmd=open   4/30/2005

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[138] Email correspondence - case example 4 concerning practical matters of the project. I acknowledge regional council permission for the use of this material.

Part 2. Previous funding applications - a case example[139](A)
A.[140]

Waikato Catchment Ecological Enhancement Trust

Taking steps to improve our ecological heritage

PO Box 4335, Hamilton
P: 0800 BIODIV (246 348)
E: enquiries@wceet.org.nz
W: www.wceet.org.nz

30 March 2005

Katie Simon
205 Silverdale Road
HAMILTON

Dear Katie

Application to Waikato Catchment Ecological Enhancement Trust : Application 2005/28

I refer to your application to the Waikato Catchment Ecological Enhancement Trust for funding.
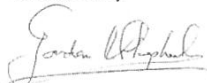
The Trust considered your application along with the other 33 applications it received for our 31 January 2005 funding round, at its last meeting.

The Trust was impressed with your enthusiasm and achievements in the past. We regret however we are unable to fund your project. We emphasise that our Trust's primary objective is the ecological enhancement of the catchment. In your case we concluded that we had other applications of higher merit. In the event of you re-applying another year we suggest you address very clearly the direct ecological benefits of your proposal.

Please note we hope to have another funding round next year.

Thank you for your interest and for your efforts in making this application to our Trust.

Yours sincerely

Gordon Stephenson
CHAIRMAN

Ecological and biodiversity values in the Taupo and Waikato catchment protected, enhanced and restored.

---

[139]This appendix *(Part 2A)* provides background information on my other funding applications.
[140] For example, the 2005 *Waikato* Catchment Ecological Enhancement Trust application was unsuccessful. I acknowledge local trust permission for the use of this material.

Part 3. Current funding applications - a case example[141] (A)
A.[142]

Application for Project Funding

Type of funding applied for: (Oral History, Scientific Study, Economic Initiative)

- Scientific Study

Organisation applying for funding:

- International Global Change Institute; that being, my department as PhD candidate of the
  University of *Waikato*
- Contact details:
a. Web address: www.*waikato*.ac.nz/igci
b. General enquiries: igci@*waikato*.ac.nz
c. Phone: +64 (07) 858 5647
d. Fax: +64 (07) 858 5689
e. Postal: International Global Change Institute,
         University of *Waikato*,
          Private Bag 3105,
          Hamilton

 Organisation details: *(Iwi, Hapu, Marae,* committee, chairman etc)

i. Introduction - The International Global Change Institute (IGCI) is a separate self-funding unit
within The University of *Waikato.* It provides a focus for research and training on the *human
dimensions of global environmental change.*

IGCI is:
- International: because IGCIs operations and project-support extend overseas, especially to the
Asia-Pacific and southern hemisphere regions.
- Global: because IGCI addresses issues that are trans-national both in their causes and
consequences.
- Change: because IGCI focuses on problems stemming from the dynamic interactions between
human and natural systems.
- Institute: because IGCI is an organisation that pursues its goal of managing environmental
change in association with other regional, national and international institutions.
   Areas of Expertise:
- climate change science, impacts and adaptation;
- environmental planning, policy and governance;
- sustainable rural and community development;
- coastal zone assessment and management;
- hydrology and water resources management;
- sustainable and organic agriculture;
- health issues and environmental change;
- environmental technology assessment; and;
- computer modelling and software development

ii. Overview - The IGCI has four main GOALS in pursuing the theme of managing environmental
change:
- To *integrate knowledge* from the natural and social sciences, in order to better understand the

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[141] This appendix elaborates on a current funding application.
[142] It was also unsuccessful. I acknowledge supervisor permission for the use of this material.

causes and consequences of global environmental change and its human dimensions, and thereby manage the effects;
-To *further the development of integrated methods,* in order to provide the means for investigating the interactions between society and environment;
- To *address key global change problems* as they affect people and the environment;
- To *communicate* widely findings of the IGCI so as to facilitate policy, planning, and action.

In meeting these goals, the main ACTIVITIES of IGCI are:
- To carry out contract research programmes;
- To provide post-graduate higher degree education;
- To provide professional training, particularly in the service of developing countries;
- To develop international linkages with research centres and institutes, research programmes, and funding organisations;
- To provide policy advice to governments, industries, and international bodies.

The activities of IGCI are organised under four main PROGRAMMES:
- Collaborative Research Programme
- Sustainable Development Programme
- Professional Training Programme
- Post-graduate Higher Degree Education Programme

Collaborations include, for example, national agencies, such as Crown Research Institutes, universities, and regional and local councils and with international agencies, such as UNITAR, UNDP, UNEP, World Bank, SPREP, PICCAP, University of the South Pacific, Bangladesh Unnayan Parishad, and Thai Nguyn University, Vietnam, are being extended to other agencies, (http://www.*waikato*.ac.nz/research/unilink/capabilities_igci.shtml).

iii. Key IGCI staff members of my PhD supervisory panel -

a. Professor Neil Ericksen (Head of Department and PhD supervisor) -
My HOD is the founding Director of the International Global Change Institute (1997), and of its forerunner, the Centre for Environmental and Resource Studies. His research interests are: human response to natural hazards and climate change, governance and environmental management, and resource planning. His research has involved applying an integrated approach for reducing flood hazards and disasters in New Zealand; developing and applying methods for evaluating the quality and effectiveness of environmental plans in New Zealand; evaluating co-operative and coercive approaches to environmental management and governance in the United States, Australia and New Zealand, with particular reference to natural hazards; evaluating the socio-economic implication for Bangladesh of climate change and sea-level rise; and providing technical assistance to Pacific island countries. His research on urban flood hazard was significant in changing policy and practice in that field in New Zealand.

b. Doctor Peter Urich (Senior Research Fellow, Manager of Integrated Planning and Governance for Sustainable Community Development Programme and PhD chief supervisor).

My PhD chief supervisor joined IGCI in 2002 and in January 2004 assumed the role of manager of the Planning, Governance and Sustainable Community Development Programme. His main research thrusts are in the areas of resource control and environmental change, community

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development, limestone environments and their conservation and organic agriculture. He has a growing interest in vulnerability and adaptation of communities in the context of climate change and the role to be played by community forestry and organic agriculture. Currently, Peter is overseeing the production of a report on the research needs in New Zealand to overcome the barriers to adaptation and mitigation related to climate change.

Peter is also involved in the CLIMPACTS case study exploring the barriers to adaptation to climate change in the Eastern Bay of Plenty. His work offshore includes being project leader in the establishment of a new and dynamic research consortium to reduce poverty and sustain environments on the Central Philippines island of Bohol. The project is funded by the Asia Development Assistance Facility of NZAID. Peter is currently collaborating with the Soil and Water Conservation Foundation of Cebu City, Philippines on the production of a series of resource management primers for Local Government Units and resource managers pertaining to limestone environments in the Central Philippines. The project is being funded by Cornell University in collaboration with USAID. New and exciting relationships are being forged with the Bureau of Soil and Water Management of the Philippines and Crown Research Institutes in New Zealand to foster research and local development projects around land degradation, community development, sustainable forestry and carbon sequestration and carbon credit trading.

Project Relationships: (What other organisations are involved? Eg. *Iwi*, Government Agencies, Private)

This post-PhD project is linked to my study's relationships with various organisations as follows:
i. Organisations of research/education funding in support of the PhD:
- Birthright, East *Taupō* Lands Trust, Lake *Taupō* Forest Trust, Ministry for the Environment, Ministry of Social Development, *Onuku Māori* Lands Trust, *Opawa Rangitoto (Meremere* 438) Trust, *Opepe* Farm Trust, Local Government New Zealand, *Ngā Pae o te Maramatanga,* Resource Management Law Association of New Zealand Incorporated, *Rotoiti* 15 Trust, *Tainui* Development Incorporated, *Te Matai* No 1 and 2 Blocks Trust, *Te Ohu Kai Moana, Tuwharetoa* Genesis Group, *Tuwharetoa Māori* Trust Board, University of *Waikato* and *Wharetoto* 5B Block Incorporation.

ii. National, regional and local government organisations of environmental governance/ management under investigation in the PhD:
- Ministry of the Environment, Environment *Waikato, Taupō* District Council, Thames-Coromandel District Council and *Otorohanga* District Council.

iii. Main Māori organisations of the PhD's Kaupapa Māori consultation process:
- *Waitahanui marae* trustees, *Waipapa marae* committee and *Raikaiora marae* committee.

iv. Other international, national and local organisations under investigation in the research:
- The Westphalian International Order and Bretton Woods Institutions such as the International Monetary Fund, World Bank and United Nations.
- The Westminster-Keynesian National Order of *Aotearoa* and Water hierarchies such as the National Institute of Water and Atmosphere and the Foundation for Research Science and Technology.
- Various local organizations such as the *Tongariro/Taupō* and Hamilton Conservancies of the Department of Conservation, *Kāwhia* and Coromandel Museums and the *Waitahanui* Angling Improvement Association Incorporated.

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Project Location: -

International Global Change Institute,
193 London Street,
(University of *Waikato* Language Institute Building, corner of London and Tristram Streets),
Hamilton,
New Zealand.

Project Objectives: (what is to be achieved?)

a. Overall:

- To disseminate information/knowledge from my PhD research (with specific regard to the *Waitahanui* river and *Ngāti Tuwharetoa).*

b. Immediate:

- To present a summarised report and copy of the PhD thesis as required.
- To publish two journal articles - one for academia and the other for the local community.

c. Long term:
- To complete a 1 year project funding proposal for the further dissemination of PhD related information and knowledge

Project Management: (Who will be managing the project? Please provide relevant details)

- I intend to undertake the tasks of the project under the management of my Head of Department (Professor Neil Ericksen) and Chief supervisor (Doctor Peter Urich) at the International Global Change Institute, University of *Waikato.*

Projects undertaken in the past: (What other projects have been carried out by you or your organisation).

Selected examples of International Global Change Institute projects and funding agencies include:
- organic tea production in Vietnam (Asia Development Assistance Facility, NZAID)
- training for sustainable farming in hill-lands of Northern Vietnam (Ministry of Foreign Affairs and Trade, NZ)
- quality of plans, their implementation, and environmental outcomes by councils under the Resource Management Act (Foundation for Research Science and Technology, NZ)
- vulnerability and adaptation to climate change in Pacific island countries (Global Environmental Facility-UNDP and World Bank)
- global environment outlook for Australia-New Zealand sub-region (United Nations environmental research consortium, Bohol, Philippines (Asia Development Assistance Facility, NZAID)
- mainstreaming climate change adaptation into policies and practices, Pacific Islands (Asia Development Bank)

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- mainstreaming of climate issues into policy and planning processes, Environment Bay of Plenty (Foundation for Research, Science and Technology, NZ), (http://calender.*waikato.*ac.nz/researchcentres/igci.html).

Expected timeframes: (When is the activity expected to start and expected finish date? What stages are there?).

i. Overall: I expect to start the project once my final draft PhD thesis is being reviewed for examination (estimated to be ready from November 25, 2005) till its completion (estimated to be through the examination process by February - March, 2006).

ii. Summarised timeframe of tasks/activities: The expected timings of key tasks/activities of the project are summarized as follows:

Stage 1/The start period: 25/11 - 1/12, 2005			
Main tasks and activities			
Research report	Local article	Academic article	Proposal
- draughting	- planning	- planning	- planning
Key date and activity: *Dissemination of research report by 1. 12. 2005*			

Stage 2/The beginning middle period: 2/12 - 23/12, 2005		
Main tasks and activities		
Local article	Academic article	Proposal
- draughting	- planning	- planning
Key date and activity: *Dissemination of local article by 23. 12. 2005*		

Stage 3/The end middle period: 4/1 - 1/2, 2006	
Main tasks and activities	
Academic article	Proposal
- draughting	- planning
Key date and activity: *Dissemination of academic article by 1. 2. 2006*	

Stage 4/The finish period: 2/2 - 1/3, 2006
Main task and activity
Proposal - draughting
Key date and activity: *Submission of funding proposal by 1 .3. 2006*

Cost(s): (Estimate where necessary and clearly state the amount sought from the *Tuwharetoa* - Mighty River Power Development Group, attach relevant documentation).

a. I wish to apply for *$10, 000.* My costings are summarized as follows:

Project budget	
Item	*Cost*
- 2 bound copies of the thesis (For the *Waitahanui marae trustees* and *Tuwharetoa Māori Trust board)*	$100
- 50 spiral bound copies of the thesis (For other *Ngāti Tuwharetoa* funders, research	$200

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participants, and local community	
- Journal article (2) publication and administration costs	$500
- Research report administration costs	$245
- Funding proposal administration costs	$245
- Travel expenses (approximately 10 trips to *Waitahanui, Taupo* and *Turangi)*	$1500
- Work costs at $35 per hour x 206 hours	$7210
Total	*10,000*

Maintenance: (Are there ongoing costs once the activity is complete? how will this be funded?)

- My funding proposal (due 1.3.2006) aims to do follow on work, intended for the further dissemination of knowledge/information from the PhD thesis. I envisage to re-apply for additional funding, alongside other potential funders (for example, *Ngā Pae o te Maramatanga* offers post-doctorate funding for such activities), for further details see: http://www.arts.auckland.ac.nz/sites/index.cfm?S=M_MARAMATANGA

Additional relevant information:

N/A

Describe the perceived benefit to *Ngāti Tuwharetoa* of this Initiative.

My project seeks to benefit *Ngāti Tuwharetoa* through:
- promoting the achievement of academic excellence,
- advocating a collaborative approach to enhancing sustainability, from a *Ngāti Tuwharetoa* affiliated viewpoint;
- promoting *Māori* epistemology (worldview) on par with western science, from a *Ngāti Tuwharetoa* affiliated viewpoint;
- profiling the *kaitiakitanga* of *te ahi ka* (namely my *whānau* of the *Waitahanui* river case study); and
- enhancing the reconciliation of contesting viewpoints in the river management/governance of the *Waitahanui* river case study

Please complete this section:
Confirmation of Registration on the *Ngāti Tuwharetoa Maori* Trust Board
Beneficiaries Database.
Please state your Beneficiary number: *6432*
Applications will not be considered unless you are registered on the database. If you are unsure of your beneficiary number or need to register please contact the *Tuwharetoa Māori* Trust Board
on 07 386 8832, PO Box 87 *Turangi.*

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Appendices 3.7ci,ii   *Utu utu* and the funding providers/ University departments of the study - background information[143]
Appendix 3.7ci   Reciprocation obligations to the funding providers of the study[144] - further details[145] (A,B,C)

A.[146]

National Doctoral Conference/*Ngā Pae o te Maramatanga,* **Christchurch,** *Onuku marae,* **27-29 October, 2005**
Paper title: 'Cross-cultural research and the nuanced reality of synergistic value change - From Oppositional *Kaupapa Māori*-And/Or to *Kaupapa Māori* And/Also-nuanced problem solving'
By Katarina Heramoana Simon
PhD candidate, IGCI, University of *Waikato (Mai ki Waikato site)*

Abstract:
My doctoral research engages the nuanced reality of conflicting and converging *Māori* and scientific conservation and use values (termed 'synergistic value change') underpinning reflexive processes of knowledge/value change. As synergy is a cross-cultural process under continual transition, it was methodologically engaged from the oppositions (termed 'Oppositional *Kaupapa Māori*-And/Or) and subtleties (termed '*Kaupapa Māori* And/Also-nuance problem solving') of contesting *Māori* and western scientific epistemologies. However, *Kaupapa Māori*-And/Also cross-cuts the Oppositional *Kaupapa Māori*-And/Or standpoint. Hence, I am caught between the opposing sides of both epistemologies. Since I engage these reflexive processes in the study, the paper deliberates on my epistemological struggle to cross-culturally apply both *Māori* and western social science methodologies, beyond And/Or toward And/Also-nuanced problem solving.

Presentation - review of the chair's introduction:
Katie Simon is a *Mai ki Waikato* stipend recipient, near completion of her doctoral thesis titled 'Synergistic conservation values? *Māori tikanga*, science, resource management and law'
She is affiliated to *Ngāti Tuwharetoa, Ngāti Hikairo (Waikato)* and *Ngāti Porou (ki Harataunga).*
Her thesis focuses on a synergistic approach to *Māori* development, involving a comparative analysis of three *Māori* community and five environmental authority case studies.

In her presentation she attempts to relate the search for synergy of the study:
i. to the conference theme of interrogating intersecting realities - in terms of synergistic value change;
ii. to the *Mai ki Waikato* theme *'He piko, he taniwha'* - in terms of the *Māori* adaptive strategies of cultural loss and survival;
iii. to the conference paper - in terms of the movement from *Kaupapa Māori* And/Or to *Kaupapa Māori* And/Also-nuanced problem solving; and
iv. to *Māori* development - in terms of the case example of the reflexive practice of *utu utu,* reciprocation.

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[143] The following appendices *(Appendices 3.7ci,ii)* provide background information about my reciprocal obligations to the funding providers and University departments of the study.
[144] My *utu utu* obligations extended to the funding providers of the study *(Preface* and *Appendix i.i).*
[145] This includes conference presentations and papers (Simon, 2004a; 2004b; 2005).
[146] An excerpt of a 2005 conference paper for *Ngā Pae o Te Maramatanga.* For further details see the references of the study.

B.[147]

To whom it may concern.
This is to verify that Katie Simon presented her findings
of her research on Friday May 28th, 2004.

CONFERENCE FACILITATOR

Paper submission: National Maori Doctoral Conference,
24 – 26 February, Taupo

Thomas Haapu

Searching for balance of Maori (nga tikanga tupato) and   *THOMAS HAAPU*
scientific conservatory values – preliminary research findings

By Katie Simon
Ngati Hikairo, Ngati Tuwharetoa & Ngati Porou
khs1@waikato.ac.nz
Postal: IGCI, University of Waikato,
PO Box 3105, Hamilton
Ph: 07/ 8562889, ext 5629

Abstract:
Nga tikanga tupato (Maori conservatory values) are central to my
study's search for balance between Maori and scientific values. This
paper reports on preliminary fieldwork findings regarding
recognition and application of *nga tikanga tupato*.
The paper focuses on an initial analysis of information obtained
during fieldwork from three river (Harataunga, Oparau &
Waitahanui) case studies and the environmental authorities
governing and managing them. My own application of a Kaupapa
Maori research model is central to the process of analysing
information. Thus, the study's application of a Kaupapa Maori
model is a key emphasis of the paper.
Preliminary fieldwork findings indicate much potential for the role
of *nga tikanga tupato* in the balance of conservatory values. This
potential was much more evident through a continued recognition
and application of *nga tikanga tupato* in the river case studies,
compared with environmental authorities that only had marginal
representation of *nga tikanga tupato*.

VICTORIA UNIVERSITY OF WELLINGTON
Te Whare Wananga o te Upoko o te Ika a Maui

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[147] An excerpt of a 2004 conference paper for *Ngā Pae o te Maramatanga* is provided. For
further details see the references of the study. I acknowledge facilitator permission for the
use of this material.

C.[148]

To whom it may concern.

This is to verify that K. Simon presented her findings of her research on Friday May 28th, 2004.

CONFERENCE FACILITATOR

Thomas Haapu

* Working draft paper
Paper submission: National Maori Doctoral Conference,
24 – 26 February, Taupo

Unlocking multiplicity in Kaupapa Maori research - Comparison of 3 Maori case studies

By Katarina Heramoana Simon
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SCHOOL OF EDUCATION

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Abstract:
Doing Kaupapa Maori research involves coming to terms with the multiple realities of our people. Yet, the full understanding of this multiplicity is limited by emphasis on Maori resistance to change based on reflection of past traditions of *te ao Maori,* the Maori world. This paper argues that Kaupapa Maori research requires greater recognition of both Maori resistance and reconciliation to change (or the multiplicity of change), as an important step toward a better understanding of multiplicity.

The paper focuses on multiple effects (distinguished as cohesive and dysfunctional) of change on *te ao Maori,* developed from research in progress based on the study's application of a Kaupapa Maori model with three Maori communities. Comparison of cohesion and dysfunction in the Maori case studies highlights multiple effects of change on *te ao Maori.* Such development of multiplicity in Kaupapa Maori research is a key intention of the paper.

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[148] Another excerpt of a 2004 conference paper for *Ngā Pae o te Maramatanga* is provided. For further details see the reference section of the thesis. I acknowledge facilitator permission for the use of this material.

Appendix 3.7cii   Reciprocation obligations to the University departments of the study[149] - further details[150](A,B)

A.[151]

The development of a PUCM Kaupapa Maori model
By Katie Simon[1]
Submitted on 3. 2. 04

1. Introduction:
This document discusses the general development of Kaupapa
Maori (Maori rationale) in PUCM. It is developed within the
general working framework of a Kaupapa Maori research model
(Maori research rationale). Hence, the following discussion
provides the initial development framework of a *PUCM Kaupapa
Maori model.*

2. Framework of PUCM Kaupapa Maori model:
This section briefly outlines the working development framework
of a PUCM Kaupapa Maori model in two main parts *(Part One:
Internal PUCM Kaupapa Maori model & Part Two: External
Kaupapa Maori model)* as follows:

Part One - Internal PUCM Kaupapa Maori model:
An internal PUCM Kaupapa Maori model includes development of
the following main areas:

i. Internal PUCM incorporation of *te ao Maori,* Maori world view
thinking and practice as follows:

Examples of internal PUCM *te ao Maori* thinking include:
- recognition of the contemporary location of *te ao Maori* (i.e. broad
thinking awareness about tradition and modernity, etc),
- recognition of the multiplicity of *te ao Maori* (i.e. multiple
thinking about *te ao Maori,* etc),
- recognition of potential benefits of *te ao Maori* in sustainability
(i.e. cross-cultural (Maori and scientific), multi-dimensional
(embraces multi-institutions of the economic, environment,
political-legal & socio-cultural) and multi-disciplinary development
of Kaupapa Maori in PUCM, etc).

Examples of internal PUCM *te ao Maori* practice include:

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[1] I would like to acknowledge the kind assistance of Professor Les Williams (Nga Pae o te
Maramatanga) in my formulation of this document. My sincere thanks to you Les, for your
guiding principles of integrity, truth and transparency – especially in terms of my struggle to
compile the project budget.

1

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[149] My *utu utu* obligations extended to the University departments of the study *(Preface* and
Appendix i.i).
[150] This included providing advice as non-funded *Kaupapa Māori* advisor of the International
Global Change Institute (2003 - 2007).
[151] For example, I provided advice for the development of a 'PUCM (Planning Under Co-
operative Mandate) *Kaupapa Māori* model' (5 pages). However, no further action was
taken. I acknowledge University permission for the use of this material.

- Maori spiritual endorsement and sanctioning of Kaupapa Maori in PUCM (i.e. internal PUCM Maori blessing and *karakia,* prayer by Maori *tohunga* or *kaumatua,* etc),
- Maori *ingoa,* name and *whakatauki* (proverb) for PUCM,
- Internal PUCM Kaupapa Maori advisory body (i.e. includes a local *kaumatua* & *kuia,* etc), and
- Internal PUCM Kaupapa Maori practice manual (i.e. Kaupapa Maori terminology, Maori glossary, Maori *kawa,* protocols, PUCM Kaupapa Maori *karakia* (e.g. for before and after PUCM Kaupapa Maori meetings) & PUCM Kaupapa Maori *waiata/ himene* (songs and hymns), etc).

ii. Literature review of Kaupapa Maori in PUCM involves the development of two main subject areas (Subject Area A/ Kaupapa Maori theory & Subject Area B/ Kaupapa Maori methods) as follows:

Subject Area A - Kaupapa Maori theory:
The Kaupapa Maori theory subject area includes development of:
- macro sociological literature about tradition and modernity (i.e. development of a broad macro thinking framework for locating *te ao Maori* in the contemporary period, etc),
- multi-disciplinary, multi-dimensional and cross-cultural literature about evolution of *te ao Maori* and Kaupapa Maori (i.e. historical overview of the development of *te ao Maori* & Kaupapa Maori, etc),
- international, national and local literature on Kaupapa Maori theory (i.e. general overview of Maori/ indigenous theorists, etc), and
- development of PUCM Kaupapa Maori theoretical framework.

Subject Area B - Kaupapa Maori methods:
The Kaupapa Maori methods subject area includes development of:
- international, national and local literature on research methods with non-western cultures (i.e. historical overview of research methods on non-western cultures, qualitative and quantitative methods, etc),
- Qualitative methods literature and Maori/ indigenous people (i.e. general overview of main qualitative methods used for researching Maori/ indigenous peoples, pro's and con's, etc),
- International, national and local literature on Kaupapa Maori methods, and
- development of a PUCM Kaupapa Maori methodological framework.

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iii. PUCM Kaupapa Maori subsidiary resources including:

- Kaupapa Maori resource data base (e.g. pan-Maori organisational matrix, Maori trust board contact details, etc),
- PUCM Kaupapa Maori library (i.e. Maori dictionary, Maori history books, Maori tribal maps, etc) and
- PUCM Kaupapa Maori/ te reo Maori licensed interpreter.

Part Two - External PUCM Kaupapa Maori model:
An external PUCM Kaupapa Maori model includes development of the following main areas:

i. External acknowledgement and endorsement of PUCM Kaupapa Maori model in the *te ao Maori* location of *te ahi ka* – Tainui/ Kirikiriroa including:
- incorporation of Tainui/ Kirikiriroa *kawa* and *tikanga* (nb: I am of Tainui descent, with almost 20 years Tainui affiliated Maori networks within Kirikiriroa/ Hamilton),
- participation of local kaumatua and kuia (i.e. Tainui kaumatua for spiritual blessing of PUCM Kaupapa Maori model, etc), and
- PCUM researcher participation in local Maori community events (i.e. attendance at Tainui hui, marae and Maori community hui, etc).

ii. Profiling of PUCM Kaupapa Maori model including:
- international, national and district/local profiling of PUCM Kaupapa Maori model (i.e. publications of PUCM Kaupapa Maori model, presentations at conferences, etc), and

iii. A PUCM Kaupapa Maori fieldwork framework including:
- external application of *te ao Maori* during fieldwork (i.e. *karakia* before Maori research interviews, etc),
- a *te ao Maori* apprenticeshiping model (encompasses the past, present and future),
- a Maori research participant network framework (e.g. *whanaunga* model, Maori key informant system, Maori organisational matrix, etc),
- a Maori consultation and feedback process,
- procedures of Maori research reciprocation, benefits and representation (i.e. koha, compensation for Maori research participant expenses, issues of Maori cultural and intellectual property, etc), and
- approval of a Maori ethical review proposal (already obtained?).

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3. Funding of a PUCM Kaupapa Maori model:

The general estimated figures for funding the development of a PUCM Kaupapa Maori model (internal and external) are outlined in *Table One* as follows:

Table One - PUCM Kaupapa Maori Summary Budget:

Internal PUCM Kaupapa Maori Model:	
Item:	Cost:
- Maori researcher consultation and advice[2]:	$50-100/ hr x 40 hours = *approx $2-4000*
- PUCM *te ao Maori* practice manual[3]:	$50-100/hr x 5-10 hours = *approx $500*
- PUCM Maori advisory body[4]:	2- 4 meetings[5] ($200/meeting) per year = *approx $800*
- PUCM Kaupapa Maori literature review: i. Kaupapa Maori theory ii. Kaupapa Maori methods	i. $50-100/hr x 40 hours = *approx $2-4000* ii. $50-100/hr x 40 hours = *approx $2-4000*
- PCUM Kaupapa Maori subsidiary resources:	Maori dictionary, licensed interpreter, etc = *approx $2-3000/ year*
Internal funding total:	approx: $9-16,300
External PUCM Kaupapa Maori Model:	
- Maori researcher consultation and advice[6]	$50 –100/hr x 40 hours[7] = *approx $2-4000*
- PUCM Kaupapa Maori profiling	*approx $1-2000/ year*
- PUCM Kaupapa Maori fieldwork framework[8]	i. reciprocation costs: *$ 2000 approx per year* ii. consultation and feedback process costs: *$2000 approx per year*

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[2] Includes intellectual development of internal PUCM Kaupapa Maori model – that intellectual property being owned by PUCM.

[3] Includes advice on operation of PUCM *te ao Maori* practice manual.

[4] Includes participation of kaumatua and kuia.

[5] Includes spiritual endorsement and sanctioning hui on PUCM Kaupapa Maori model.

[6] Includes intellectual development of external PUCM Kaupapa Maori model – that intellectual property being owned by PUCM.

[7] Includes support with endorsing PUCM Kaupapa Maori model in Tainui/ Kirikiriroa.

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	iii. Networking costs/ year *$ $1000/ year*
External funding total:	approx: $8-12,000
Overall total costs:	*approx $17-28,000*

As summarised above the estimated cost for development of a
PUCM Kaupapa Maori model is approximately $20,000.

4. Conclusion:

This preliminary discussion document outlined the working
development of a PUCM Kaupapa Maori model in two main parts:
these being, the internal and external PUCM Kaupapa Maori
development framework.
In conclusion, it is estimated to cost approximately $20,000 to
develop a PUCM Kaupapa Maori model.

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[8] Intellectual development of PUCM Kaupapa Maori fieldwork framework included in external
Maori researcher consultation and advice costings.

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B.[152]

FILE COPY Admin - Kaupapa for IGCI

Submission from:

The International Global Change Institute, The University of Waikato

Maori Target Outcomes

FRST is seeking to maximise the effectiveness of its RS&T investment that contribute positive outcomes for New Zealand through increased involvement of Maori organisations and communities in ecosystems research. It is seeking to focus its Maori specific investment in key areas that will make a real difference for Maori organisations and communities. Accordingly we encourage your input to help identify the environmental outcomes of importance to Maori that align with the ecosystems research portfolio.

The Foundation would like to hear your views on the following questions. Please respond by filling in the template on the next page.

We wish to identify — what are the key environmental outcomes of importance to Maori that FRST should focus its ecosystems research investment on?

What are the attributes, abilities or needs that will help achieve these outcomes?

The spread of FRST's research involving Maori in the Natural Ecosystems portfolio across different environmental objectives is described below[1].

- 55% contributes to the protection and restoration of kaimoana and aquatic mahinga kai species of cultural importance.
- 35% contributes to the protection and restoration of terrestrial taonga plant species.
- 10% contributes to management of biosecurity risks.

It is worth noting that the significant portion of this research contributes to protection and restoration of species of cultural importance with traditional and contemporary use value. There are also components of matauranga Maori, particularly traditional ecological knowledge, within some of this research.

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[1] These figures are estimates based on audited Maori responsiveness data in relevant PGS&T contracts.

1

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[152] My work also included providing input into departmental submissions to FRST (Foundation for Research, Science and Technology) (4 pages). I acknowledge University permission for the use of this material.

Overarching outcome for Maori:

Improved ecosystems health outcomes for Māori, hapū, and iwi.

Next level down ….(to help you work, identify the elements that need to be covered as target outcomes):

Target outcome 1 (and year for its achievement):

A kaupapa Maori approach for research on ecosystem health outcomes for Māori, hapū and iwi (end of Year 1).

Target outcome 2:

Improved capacity of Māori organisations and communities to participate in research that identifies ecosystem health outcomes for Māori, hapū, and iwi (end of Year 2 for, say, three selected communities).

Target outcome 3:

A set of ecosystem health indicators for use in assessing ecosystem health for Māori, hapū and iwi (end of Year 2)

Target outcome 4:

Informed policy and planning on ecosystem health of importance to Māori, hapū and iwi in central and local government (Years 3 and 4).

What are the attributes, abilities or needs that will help achieve these outcomes?

In summary, the attributes, abilities and needs for achieving the outcomes should include:

- researchers that have proven capacity to deliver within a kaupapa Māori research paradigm;

- research that is driven through participatory and related approaches/methods that empower Māori communities to both help carry out the research and implement its results;

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- funding that is sufficient for mainstreaming the research environmental outcomes for Māori communities into policies and planning in central and local government;

- recognition by the FRST reference group of the value of a kaupapa Māori paradigm and of the participatory research techniques necessary for achieving ecosystems health outcomes for Māori, hapū and iwi. (This need recognises that most scientists, and even many social scientists, will not appreciate the nature of research that is required.)

Linkages (e.g. across portfolios, research areas and between target outcomes, interdependencies)

Clearly, improved ecosystem health outcomes for Māori, hapū and iwi relate to all of the portfolios that contain environmental elements, such as the Sustainable Cities and Settlements, as well as research that is funded through the Maori Development Unit.

Comment on the importance and urgency of your suggested target outcome/s (using as much space as you wish)

Research with, and in, Māori communities takes time because: protocols have to be developed and followed; trust must be established and maintained; communication links have to be fostered; and participating Māori in communities need to be trained, which takes time and resources. This apprenticeship phase of research development is crucial for the achievement of target outcomes. If the Foundation wants results urgently then it would need to be sure that it contracts established, competent and experienced Māori researchers who have established and ongoing links with Māori communities.

The processes by which the overarching outcome and target outcomes are achieved should foster and reinforce Māori kaitiakitanga (stewardship) and rangitiratanga (self-reliance), as acknowledged in the 1991 *Resource Management Act* (provisions 6 through 8), and enhanced by the new *Local Government Act* 2002. This will contribute to both the sustainability of natural ecosystems and the management of biosecurity risks.

In our view a comprehensive programme of research aimed at achieving the target outcomes might require $1,000,000 a year over the next four years for the prototype model to be worked through, and much longer for extending the research to other communities and environments/ecosystems.

The submitters

This submission has been prepared by Neil Ericksen, Peter Urich and Katarina Simon, IGCI, University of Waikato.

Professor Neil Ericksen (Director of IGCI)

Neil Ericksen is founding director of the International Global Change Institute (Te Wānanga o Ngā Rere Ketanga-a-Taiao) at The University of Waikato (Te Whare Wānanga o Waikato). He leads the on-going FRST research programme on

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Planning under Co-operative Mandates (PUCM), which includes an objective on environmental outcomes for Māori led by Kokomuka Consultancy Ltd (now KCSM Consultancy Solutions Ltd).

Dr. Peter Urich (Senior Research Fellow)

Peter Urich is the Manager of IGCI's Integrated Planning and Governance for Sustainable Community Development Programme. He has extensive experience in research with indigenous communities with an emphasis on natural resource management and the use of participatory methods in research activities.

Ms Katarina Simon (RCN, BSocSci, MSocSci, PgDipMPD)

Katarina Simon is IGCI Kaupapa advisor and PhD Candidate. Her affiliations are Ngati Tuwharetoa, Ngati Hikairo (Waikato), Ngati Porou and Ngati Manawa. She is in the final stages of writing her PhD Thesis on 'Synergistic conservatory values? Māori tikanga, science, resource management, and law'

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Appendix 3.7d   Final doctoral research report - further details

Doctoral thesis - final report/April, 2006
'Finding synergistic conservation values? *Māori tikanga*, science, resource management and law', 2006
by Katie Simon
Ngāti Porou ki Harataunga, Ngāti Hikairo (Waikato), Ngāti Tuwharetoa
RCN, BSocSci, MSocSci, PgDip MPD, PhD candidate

My doctoral thesis entailed a cross-cultural, multi-disciplinary study on the environmental governance and management[153] of three *Aotearoa/*New Zealand *(Harataunga, Oparau and Waitahanui)* rivers[154]. It primarily sought to empower *Māori* kaitiaki, through a comparative research approach termed 'synergistic'. Such a search for synergy engaged *Māori* adaptation and the change process. Thereby, *kaitiakitanga* was better realised as an evolutionary, cross-cultural and multi-dimensional phenomena of the present period.

Most importantly, the research found a synergistic model for *Māori* advancement. In the thesis, it was articulated two-fold. Part 1 'Comparison of Values' (Preface - Chapter 3) developed synergy conceptually and methodologically. Part 2 'Balance of Values' (Chapter 4 - 8) developed synergy empirically.

Overall, synergy was developed, as a transitory phenomena in the process of change. The adaptive, ecological strategies of local *Māori kaitiaki* were comparatively analysed at both national and global environmental change. As such, the thesis provides a revolutionary viewpoint of *kaitiakitanga.*

Currently, the writer is a full-time 2006 under-graduate student in the total immersion *te reo Māori* course *'Te Tohu Paetahi'* at the University of *Waikato*. She also holds various *Māori* community work positions, as a single parent of three boys. Additionally, she has been undertaking *Māori* liaison work (for her *Ngāti Tuwharetoa* people under the *Resource Management Act 1991)* and preparatory *Māori* research work (for her *Ngāti Porou ki Harataunga* people under the Foreshore and Seabed legislation).

Lastly, seven conference papers and journal articles were written throughout the doctoral thesis. Two papers are presently being developed, concerning *kaitiakitanga* and synergy from both theoretical (paper 1) and methodological (paper 2) perspectives of the doctoral research. Further information can be obtained from the writer as follows: email address: khs1@waikato.ac.nz and student work phone number: 07/8585629.

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[153]This involved case study research on five *Aotearoa* environmental authorities; these being, the Ministry of Environment, *Environment Waikato, Taupō* District Council, Thames-Coromandel District Council and *Otorohanga* District Council.

[154] This involved case study research on three *Māori* communities; these being the *Harataunga, Oparau* and *Waitahanui* community case studies.

APPENDIX 4.1   ENVIRONMENTAL POLITICAL-LEGAL PROVISIONS - BACKGROUND INFORMATION

1. *Treaty of Waitangi Act* **1975 and the** *Waitangi* **Tribunal:**

a. The *Waitangi* Tribunal was set up under the Treaty of *Waitangi* Act 1975.

b. Its soft law provisions pertain to the principles of the Treaty, as stated in the preamble of the Act -

> Whereas on the 6[th] day of February 1840 a Treaty was entered into at *Waitangi* between Her late Majesty Queen Victoria and the *Māori* people of New Zealand: And whereas the text of the Treaty in the *Māori* language differs from the text of the Treaty in the English language: And whereas it is desirable that a Tribunal be established to make recommendations on claims relating to the practical application of the principles of the Treaty and, for that purpose, to determine its meaning and effect and whether certain matters are inconsistent with those principles.

2. The 1992 Rio Declaration and Principle 22 (Signed by 150 government leaders at the 1992 Rio Earth Summit, with the aim to promote sustainable development. Builds on the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 July, 1972).

Principle 22:

> Indigenous peoples and their communities and other local communities have a vital role in environment management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

3. Agenda 21 and Chapter 26: Recognising and strengthening the role of indigenous peoples and their communities -

APPENDIX 4.1 continued

26.3. In full partnership with indigenous people and their communities, Governments and where appropriate, intergovernmental organisations should aim at fulfilling the following objectives:

(a) Establishment of a process to empower indigenous people and their communities through measures that include:
  i. Adoption or strengthening of appropriate policies and/or legal instruments at the national level;
  ii. Recognition that the lands of indigenous peoples and their communities should be protected from activities that are environmentally unsound or that the indigenous people concerned consider to be socially and culturally inappropriate;
  iii. Recognition of their values, traditional knowledge and resource management practices with a view to promoting environmentally sound and sustainable development;
  iv. Recognition that traditional and direct dependence on renewable resources and ecosystems, including sustainable harvesting, continues to be essential to the cultural, economic and physical well-being of indigenous people and their communities;
  v. Developing and strengthening of national dispute-resolution arrangements in relation to settlement of land and resource-management concerns;
  vi. Support for alternative environmentally sound means of production to ensure a range of choices on how to improve their quality of life so that they can effectively participate in sustainable development;
  vii. Enhancement of capacity-building for indigenous communities, based on the adaptation and exchange of traditional experience, knowledge, and resource-management practices, to ensure their sustainable development;

(b) Establishment, where appropriate, of arrangements to strengthen the active participation of indigenous people and their communities in the national formulation of policies, laws and programmes relating to resource management and other development processes that may affect them, and their initiation of proposals for such policies and programmes;

(c) Involvement of indigenous peoples and their communities at the national and local levels in resource management and conservation strategies and other relevant programmes established to support and review sustainable development strategies, such as those suggested in other programme areas of Agenda 21.

APPENDIX 4.1   continued

4. The 1992 Convention on Biological Diversity and Article 8(j) & 10(d,e):

Article 8(j):

Subject to its national legislation, respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.

Article 10:

Sustainable Use of Components of Biological Diversity - Each Contracting party shall, as far as possible and as appropriate:

10(c)

Protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements.

10(d)

Support local populations to development and implement remedial action in degraded areas where biological diversity has been reduced.

For further details see *Chapter 4.*

APPENDIX 4.2   THE *TREATY OF WAITANGI* - FURTHER DETAILS

Preamble

Her Majesty Victoria Queen of the United Kingdom of Great Britain and Ireland, regarding with Her Royal Favour the Native Chiefs and Tribes of New Zealand, and anxious to protect their just Rights and Property and to secure them the enjoyment of Peace and Good order, has deemed it necessary, in consequence of the great number of Her Majesty's Subjects who have already settled in New Zealand and the rapid extension of Emigration both from Europe and Australia which it is still in progress to constitute and appoint a functionary properly authorised to treat with the Aborigines of New Zealand for the recognition of Her Majesty's Sovereign authority over the whole or any part of those islands.

Her Majesty therefore being desirous to establish a settled form of Civil Government with a view to avert the evil consequences which must result from the absence of the necessary Laws and Institutions alike to the native population and to Her subjects has been graciously pleased to empower and to authorise 'me William Hobson a Captain' in Her Majesty's Royal Navy Consul and Lieutenant Governor of such parts of New Zealand as may be or hereafter shall be ceded to Her Majesty to invite the confederated and independent Chiefs of New Zealand to concur in the following Articles and Conditions.

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1. The Text in Māori (with English translation)

Ko te Tuatahi (Article The First)

Ko nga Rangatira o te wakaminenga me nga Rangatira katoa hoki ki hai i uru ki taua wakaminenga ka tuku rawa atu ki te Kuini o Ingarani ake tonu atu te Kawanatanga katoa o ratou whenua ((The Chiefs of the Confederation and all the chiefs who have not joined that Confederation give absolutely to the Queen of England forever the complete government over their land.)

Ko te Tuarua (Article The Second)

Ko te Kuini o Ingarani ka wakarite ka wakaae ki nga Rangatira ki nga hapu ki nga tangata katoa o Nu Tirani te tino rangatiratanga o ratou whenua o ratou kainga me o ratou taonga katoa. Otiia ko nga Rangatira o te whakaminenga me nga Rangatira katoa atu ka tuku ki te Kuini o te hokonga o era wahi whenua e pai ai te tangata nona te Whenua ki te ritenga o te utu e whakaritea ai e ratou ko te kai hoko e meatia nei e te Kuini hei kai hoko e mona (The Queen of England agrees to protect the Chiefs, the sub-tribes and all the people of New Zealand in the unqualified exercise of their chieftainship over their lands, villages and all their treasures. But on the other hand, the Chiefs of the Confederation and all the chiefs will sell land to the Queen at a price agreed to by the

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APPENDIX 4.2   continued

person owning it and by the person buying it (the latter being appointed by the Queen as her purchasing agent).

Ko te Tuatoru (Article The Third)

Hei whakaritenga mai hoki tenei mo te whakaaetanga ki te Kawanatanga o te Kuini Ka tiakina e te Kuini o Ingarani nga tangata Māori katoa o Nu Tirani ka tukua ki a ratou nga tikanga katoa rite tahi ki ana mea ki nga tangata o Ingarani (For this agreed arrangement therefore concerning the Government of the Queen, the Queen of England will protect the ordinary people of New Zealand and give them the same rights and duties of citizenship as the people of England).

2. The Text in English

Article The First

The Chiefs of the Confederation of the United Tribes of New Zealand and the separate and independent Chiefs who have not become members of the Confederation cede to Her Majesty the Queen of England absolutely and without reservation the rights and powers of Sovereignty which the said Confederation or Individual Chiefs respectively exercise or possess, or may be supposed to exercise or to possess over their respective Territories as the sole Sovereigns thereof.

Article the Second

Her Majesty The Queen of England confirms and guarantees to the Chiefs and Tribes of New Zealand and to the respective families and individuals thereof the full exclusive and undisturbed possessions of their Lands and Estates Forests, Fisheries and other properties which they may collectively or individually possess so long as it is their wish and desire to retain the same in their possession; but the Chiefs of the United Tribes and the individual Chiefs yield to Her Majesty the exclusive right of Preemption over such lands as proprietors thereof may be disposed to alienate at such prices as may be agreed upon between the respective Proprietors and persons appointed by Her Majesty to treat with them in that behalf.

Article the Third

In consideration thereof Her Majesty the Queen of England extends to the Natives of New Zealand Her royal protection and imparts to them all the Rights and Privileges of British subjects.

Source: Orange (2004: 4, 7)

APPENDIX 5.1   INDICATOR DEFINITIONS - FURTHER DETAILS[Note]

1. Indicator definitions:

- 'a parameter, or value derived from parameters, which points to, provides information about, or describes the state of a phenomenon/environment/area, with a significance extending beyond that directly associated with a parameter value' (Huser, 1996: 3);

- 'key statistics that represent or summarise a significant aspect of the state of the environment, natural resources assets and/or related human activities. They focus on trends in environmental change, stresses causing these changes, ecological and socio-economic effects and societal responses' (Environment Canada, 1991: 32);

- 'aspects of the environment (known as parameters) that are monitored regularly to show trends or sudden changes in a particular environmental condition' (Ministry for the Environment, 1997: 1); and

- 'the word is derived from the Latin *indicare,* meaning to point out, give notice of, determine or estimate' (Huser, 1997: 7).

2. Indicator criteria:

a. Policy-relevant:
- will be able to monitor the key outcomes of environmental policy and legislation and measure progress towards these goals,
- will not change statutory monitoring responsibilities.

b. Analytically valid:

- measurable,

- representative of the system being assessed,

- reproducible and based on critical attributes of the system,

- developed within a consistent analytical framework,

- scientifically credible and robust,

- helpful in relating causes, effects and responses,

- responsive to environmental change,

- able to detect human induced change from natural variations predictive,

- consistent in standards for data collection, analysis and data management,

- statistical integrity

c. Cost effective:

- require limited numbers of indicators to be established,

- using existing data and information wherever possible,

- simple to monitor

d. Simple and easily understood:

- simple to interpret, accessible information systems, robust and appealing,

- clearly display extent of issues,

(Ministry for the Environment, 1997: 9).

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APPENDICES 5.2i,ii,iii,iv *TIPA'S* CULTURAL INDEX OF *MĀORI* WATER INDICATORS - FURTHER DETAILS

Appendix 5.2i The physical dimension of *Tipa's* indicator criteria[155]

Executive Summary

The purpose of this study was to develop a tool to facilitate the input and participation of iwi into land and water management processes and decision making. The result is the Cultural Health Index (CHI) for streams, developed by linking Western scientific methods and cultural knowledge about stream health.

Identifying indicators

The starting point for the project was the indicators that Māori use to assess stream health. We interviewed kaumātua and iwi resource managers, from which the following indicators were derived as being important in determining whether a river is healthy:

- shape of the river
- sediment in the water
- water quality throughout the catchment
- flow characteristics
- flow variations
- flood flows
- sound of flow
- movement of water
- fish are safe to eat
- uses of the river

- natural river mouth environment
- water quality
- abundant and diverse range of mahinga kai species
- riparian vegetation
- use of river margin
- temperature
- catchment land use
- riverbank condition
- water is safe to drink

Designing the recording form

Once the list of indicators was identified, a recording form was composed for rūnanga members to assess the health and mahinga kai at each stream site. Because the objective was to develop a quantitative index, the recording form needed to:

- make a clear distinction between positive and negative statements
- introduce a rating scale (1–5)
- ask for an overall assessment of stream health (rated 1–5) on which to base an evaluation of the contribution each indicator makes to overall stream health.

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[155] From *Tipa*, G & Teirney, L. (2003). A Cultural Health Index for Streams and Waterways: Indicators for Recognising and Expressing *Maāori* Values, (vii). Wellington, New Zealand: Ministry for the Environment. Copyright 2000 by *Tipa* et al. Printed with permission.

Appendix 5.2ii The physical dimension of *Tipa's* indicator categories[156]

4.3.1 Indicator categories

River health values

1. (21) Overall stream health (1–5; very unhealthy / very healthy) [1.0]

2. (19) Fish safe to eat (1–5; completely unsafe / completely safe) [0.91]

3. (17) Water safe to drink (1–5; completely unsafe / completely safe) [0.84]

4. (18) Would go fishing at the site (1–5; would not / great place to fish) [0.83]

Catchment scale

5. (1) Catchment land use (1–5; land and margins grazed / natural condition) [0.64]

Riparian river-margin scale

6. (16) Use of riparian margin (1–5; riparian zone grazed / natural) [0.65]

7. (4) Riparian vegetation (1–5; little or none / indigenous riparian vegetation) [0.54]

8. (5) Indigenous species (1–5; exotic vegetation on adjacent land and margins / indigenous vegetation on adjacent land and margins) [0.45]

9. (2) Riverbank condition (1–5; banks eroding / stable) [0.36]

In-stream physical characteristics

10. (8) Use of river – modification (1–5; evidence of modification / appears natural) [0.66]

11. (15) Sediment (1–5; sediment covering bed / bed free of sediment) [0.60]

12. (7) Riverbed condition (1–5; muds and sands / cobbles and gravels) [0.48]

13. (9) Use of river – takes and discharges (1–5; takes and discharges evident / no evidence) [0.39]

In-stream flow

14. (10) River flow – visible (1 or 5; no movement / movement visible) [0.58]

15. (11) River flow – audible (1 or 5; no sound / flow audible) [0.44]

In-stream water quality

16. (13) Water quality – pollution (1–5; foams or oils / none evident) [0.75]

17. (12) Water quality – smell (1 or 5; unpleasant odour / clean smell) [0.69]

18. (14) Water quality – discolouration (1–5; badly discoloured / clear) [0.61]

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[156] From *Tipa*, G & Teirney, L. (2003). A Cultural Health Index for Streams and Waterways: Indicators for Recognising and Expressing *Maāori* Values, (31). Wellington, New Zealand: Ministry for the Environment. Copyright 2000 by *Tipa* et al. Printed with permission.

Appendix 5.2iii   The physical dimension of *Tipa's* river health assessment form[157]

Appendix 1: Draft River Health Assessment Form

Indicators	Unhealthy				Healthy
1. Catchment land use	1 Land and margins grazed	2	3	4	5 Appears in an unmodified condition
2. Riverbank condition	1 Banks eroding	2	3	4	5 Banks appear stable
3.[13] River shape	1 Shape modified	2	3	4	5 Natural shape (pools, riffles, etc)
4. Riparian vegetation	1 Little or no riparian vegetation	2	3	4	5 Complete cover of indigenous margin
5. Indigenous species	Exotic vegetation visible: 1 on adjacent land 1 on riparian margins	 2 2	 3 3	 4 4	Indigenous vegetation visible: 5 on adjacent land 5 on riparian margins
6. Mahinga kai species (birds)	1 No birds are present	2	3	4	5 Range of native birds present
7. Riverbed condition	1 Mud and sands present	2	3	4	5 Cobbles and gravels appear clear
8. Use of the river	1 Evidence of modification (e.g. stopbanks, straightening, etc)	2	3	4	5 Appears unmodified
9. Use of the river	1 Evidence of takes/discharges	2	3	4	5 No takes or discharges
10. River flow	1 Cannot see movement	2	3	4	5 Movement of water is visible (whitewater and ripples)
11. River flow	1 Flow cannot be heard	2	3	4	5 Noise of the flow is obvious
12. Water quality	1 Unpleasant odours present	2	3	4	5 Clean freshwater smell
13. Water quality	1 Appears polluted (e.g. foams, oils etc)	2	3	4	5 No pollution evident
14. Water clarity	1 Water badly discoloured	2	3	4	5 Water is clear
15. Sediment	1 Sediment covering riverbed	2	3	4	5 Riverbed free of sediment
16. Use of the riparian margin	1 Margins grazed	2	3	4	5 Margin appears unmodified

17. How safe would you feel tasting the water at this site?

1   Completely unsafe   2   3   4   5   Completely safe

Please explain your answer: _____

_____

18. How would you feel about fishing at this site?

1   I would not fish here   2   3   4   5   This is a great place to fish

Please explain your answer: _____

_____

19. How safe would you feel eating fish caught at this site?

1   Completely unsafe   2   3   4   5   Completely safe

Please explain your answer: _____

_____

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[13] Factors 3 and 20 were removed from the analysis because they could not be rated consistently. Factor 6 was included in the mahinga kai component.

Appendix 5.2iv   A case example of *Tipa's* physical assessment of river health[158]

Island Stream – Maheno

Taieri Catchment: **Site Name:** Island Stream – Maheno

Stream order: 2   **Map sheet:** J42   **Map reference:** 390582

Indicators	Rating 1–5	Comments on the site
Catchment condition	1	Rūnanga comments, when they visited the site, were as follows:
Riverbank condition	2.6	Safety drinking the water
River shape	–	• *No way!!*
Riparian vegetation	2	Fishing at the site
Indigenous vegetation (on adjacent land)	1	• *No.*
Mahinga kai birds	1.25	Eating the fish
Riverbed condition	1	• *Pollution evident.*
Use of the river (modifications)	1.3	Balance
Use of the river (takes / discharges)	1.25	• *Beautiful rich farmland well watered at the river's expense. The farmland is healthy while the river suffers.*
Flow visible	1	• *Shitty land use, shitty river.*
Flow heard	1.25	Overall health
Odours present / absent	1.25	• *Polluted, smelly, area changed heaps.*
Water quality	1	Access at the site
Water clarity	1	• *Site has been destroyed.*
Sediment present / absent	1	• *Runoff from surrounding lands. This is a dairying area.*
Use of riparian areas	1	Harvesting mahinga kai from the site
Safety tasting water	1	• *Polluted.*
Suitability for fishing	1	Final comments
Safety eating fish	1	• *I said Yuck for an earlier river. God knows what I could say here.*
Balance between land and water	1	• *The worst water quality I have seen so far.*
Abundance of birds	1.5	
Diversity of birds	1	
Abundance of plants	1.5	Species that were harvested in the 19th century include:
Diversity of plants	1	• eels, kanakana, whitebait.
Access to the site	2.75	Species that were present when the site was surveyed were:
Suitability for harvesting mahinga kai	1	• wīwī, tussock • ducks • tuna (short finned) (15), tuna (long finned) (4), inanga (1).
Overall score	**1**	MCI score 78 SHMAK score 1

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[158]   From *Tipa*, G & Teirney, L. (2003). A Cultural Health Index for Streams and Waterways: Indicators for Recognising and Expressing *Maāori* Values, (68). Wellington, New Zealand: Ministry for the Environment. Copyright 2000 by *Tipa* et al. Printed with permission.

APPENDICES 6.1a,b   HIERARCHICAL AND LOCAL AND/ALSO POSTULATIONS OF LATE-MODERN SYNERGY - BACKGROUND INFORMATION

Appendix 6.1a   Micro And/Also postulations of growth over conservation and late-modern synergy - further details

In this appendix, I provide further details of my micro And/Also postulations of growth over conservation and late-modern synergy, drawn on the correlation of reflexive theory and reflexive practice. My summary chart is provided in *Table 6.1a.*

Table 6.1a Summarised overview of the correlation of reflexive theory and reflexive practice on growth over conservation in the micro empirical research - conceptual framework

Reflexive theory on the vertical model of sustainability	Reflexive practice on the vertical model of sustainability
• vertical governance: - tree top vertical sovereign authority and power structure, - gesellschaft vertical control bureaucracies ('steering' and 'rowing'), and - single voice vertical representation.	- hierarchical long term and continual epistemological validation of the supremacy of western science; - hierarchical long term power and authority asymmetry in favour western science; - hierarchical *Pākehā* legacies of colonisation, oppression, classicism and ethno-racism; - hierarchical long term and continuous validation of *Pākehā* culture over *Māori* culture; - hierarchical hard law enforcement of English law in favour of *Pākehā* culture, science and discourse; and - hierarchical soft law discretionary and non-obligatory processes and procedures on the *Māori* provisions under the *Resource Management Act 1991.*
• vertical official and non-discourse distinction: - the vertical technological authoritarianism viewpoint; - the specialisation and commodified intellectual property, and vertical pre-modern assumptions viewpoint.	- hierarchical long term and persistent demonisation of *Māori* culture, knowledge and values; - hierarchical long term and persistent failure to overcome the epistemological divide between knowledge/value systems through official discourse which is under-theorised, with specific regard to nuanced problem solving, evolutionary research, cross-cultural research, comparative research, inter-disciplinary research and multi-dimensional research; - hierarchical hegemonic knowledge/information generation processes in favour of western science; - hierarchical hegemonic financial resource allocation processes and procedures in favour of western science; and

Table 6.1a   continued

Reflexive theory on the vertical model of sustainability	Reflexive practice on the vertical model of sustainability

• vertical informational reflexivity
 	
- the vertical shallow, short termed and commodified output approach;
 	
- the vertical exploitative legacies approach; and
 	
- the vertical non-incorporation and non-participation approach.
	- hierarchical long term epistemological non-validation of *te ao Māori,* underpinned by pre-modernist thought pre-occupations.
	
	- hierarchical hegemonic research processes and practices on the generation of western scientific knowledge;
	- hierarchical hegemonic research processes and practices on the generation of indigenous knowledge, including the potentially significant knowledge gap on late-modern, contemporary *kaitiakitanga* with specific regard to :
	
	    * a more accurate and representative *Māori* voice for the advancement of *Māori* based on robust, scientifically sound and credible research that validates the contemporary phenomenon of *kaitiakitanga* in terms of:
	    - the synergistic capacity of *te ao Māori/*indigenous knowledge and *ngā tikanga tūpato,*
	    - *Māori* reflexivity; and
	    - the detraditionalisation of *ngā tikanga tūpato.*
	
	- hegemonic research processes and practices on the incorporation and participation of *Māori*/indigenous communities in the generation of both western science and indigenous knowledge, including significant gaps on -
	  i. *Kaupapa Māori* research considerations in the development of research proposals, topics and plans:
	    - unethical and inadequate incorporation of *Māori tikanga* (both internal and external practices);

Table 6.1a   continued

Reflexive theory on the vertical model of sustainability	Reflexive practice on the vertical model of sustainability
• vertical informational reflexivity (continued)	- unethical and inadequate prior consultation with local *Māori* communities; - unethical and inadequate incorporation of local *Māori* community input and participation in prior planning, proposal and topic development; - unethical and inadequate incorporation of *utu utu* research obligations toward ideological, material and practical reciprocation; and - unethical and inadequate consideration of research funding, skill capacity, resources and infrastructural support. ii. *Kaupapa Māori* research considerations in the research implementation phase; - unethical and inadequate follow on incorporation of *Māori tikanga* (both internal and external practices); - unethical and inadequate follow on consultation with local *Māori* communities; - unethical and inadequate follow on incorporation of local *Māori* community input and participation in the implementation of the research; - unethical and inadequate follow on incorporation of *utu utu* research obligations toward ideological, material and practical reciprocation; and - unethical and inadequate follow on consideration and provision of research funding, skill capacity, resources and infrastructural support.

Table 6.1a   continued

Reflexive theory on the vertical model of sustainability	Reflexive practice on the vertical model of sustainability
• vertical informational reflexivity (continued)	iii. *Kaupapa Māori* research considerations in the post research phase; - unethical and inadequate further follow on incorporation of *Māori tikanga* (both internal and external practices); - unethical and inadequate further follow on consultation with local *Māori* communities; - unethical and inadequate incorporation of further follow on local *Māori* community input and participation in research results, outcomes and benefits; - unethical and inadequate further follow on incorporation of *utu utu* research obligations toward ideological, material and practical reciprocation; and - unethical and inadequate further follow on consideration and provision of research funding, skill capacity, resources and infrastructural support.

Appendix 6.1b   Micro And/Also postulations of subtleties of growth over conservation and late-modern synergy - further details

In this appendix, I provide further details on my micro And/Also postulations of the subtleties of growth over conservation and late-modern synergy, drawn on the correlation of reflexive theory and reflexive practice. My summary chart is provided in *Table 6.1b*.

Table 6.1b   Summarised overview of the correlation of reflexive theory and reflexive practice on the underpinning subtleties of growth over conservation in the micro empirical research - conceptual framework

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/or vertical governance: - 'polyarchy' multiple multi-dimensionality and holism structure and/or 'tree top' vertical sovereign authority and power structure; - 'gemeinschaft' multiple communal and collective inter-connections; and/or the 'gesellschaft' vertical control bureaucracies ('steering' and 'rowing'), and -'collective voice' multiple representation and/or the 'single voice' vertical representation.	(And/Or) - pits the supremacy of western science in opposition with *te ao Māori* with little progress forward in the epistemological validation of *te ao Māori*; - pits the power and authority asymmetry of western science in opposition to *te ao Māori* over western with very little progress forward in rebalancing the power/authority symmetry between knowledge/value systems; - adopts an oppositional standpoint on *Pākehā* legacies of colonisation, oppression, classicism and ethno-racism with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems; - pits the ongoing validation of *Pākehā* culture in opposition to *Māori* culture with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems; - adopts an oppositional standpoint on hard law enforcement of English law in favour of *Pākehā* culture, science and discourse with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems; and - adopts an oppositional standpoint on soft law discretionary and non-obligatory processes and procedures on *Māori* provisions under the *Resource Management Act 1991,* with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems.

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/also vertical governance: (continued) - 'polyarchy' multiple multi-dimensionality and holism structure and/also 'tree top' vertical sovereign authority and power structure; - 'gemeinschaft' multiple communal and collective inter-connections; and/also the 'gesellschaft' vertical control bureaucracies ('steering' and 'rowing'), and/or -'collective voice' multiple representation and/also the 'single voice' vertical representation.	- adopts an And/Also standpoint of power and authority symmetry between *te ao Māori* and western science, to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised; - adopts an And/Also standpoint on *Pākehā* legacies of colonisation, oppression, classicism and ethno-racism to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems, but still remains unrealised; - adopts an And/Also standpoint of *Māori* culture on par with *Pākehā* culture, to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised; - adopts an And/Also standpoint on hard law enforcement of English law in favour of *Pākehā* culture, science and discourse to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/ value systems for *Māori* advancement, but still remains un-realised; and - adopts an And/Also standpoint on soft law discretionary and non-obligatory processes and procedures on the *Māori* provisions under the *Resource Management Act 1991,* to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised.

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/or vertical official and non-discourse distinction: - multiple 'time immemorial' and experiential viewpoint; and/or the vertical technological authoritarianism viewpoint; - multiple intrinsic value viewpoint; and the specialisation and/or the commodified intellectual property viewpoint; and - multiple socio-cultural and biological diversity viewpoint; and/or the vertical pre-modern assumptions viewpoint.	(And/Or) - adopts an oppositional standpoint on the long term and persistent demonisation of *Māori* culture, knowledge and values with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems; - adopts an oppositional standpoint on the long term and persistent failure to overcome the epistemological divide between knowledge/value systems through official discourse which is under-theorised, with specific regard to nuanced problem solving, evolutionary research, cross-cultural research, comparative research, inter-disciplinary research and multi-dimensional research, with very little progress forward in the epistemological validation of *te ao Māori*; - adopts an oppositional stance on the hegemonic knowledge/information generation processes in favour of western science with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems; - adopts an oppositional stance on hegemonic financial resource allocation processes and procedures in favour of western science with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems; and - adopts an oppositional stance on the long term epistemological non-validation of *te ao Māori*, underpinned by pre-modernist thought pre-occupations, with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems.

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/also vertical official and non-discourse distinction (continued)	(And/Also) - adopts an And/Also stance on the long term and persistent demonisation of *Māori* culture, knowledge and values, to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised; - adopts an And/Also standpoint on the long term and persistent failure to overcome the epistemological divide between knowledge/value systems through official discourse which is under-theorised, with specific regard to nuanced problem solving, evolutionary research, cross-cultural research, comparative research, inter-disciplinary research and multi-dimensional research; to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised; - adopts an And/Also stance on hegemonic knowledge/information generation processes in favour of western science; to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised; and - adopts an And/Also standpoint on hegemonic financial resource allocation processes and procedures in favour of western science; to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains un-realised.

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/also vertical official and non-discourse distinction (continued)	- adopts an And/Also standpoint on the long term epistemological non-validation of alternatives, underpinned by pre-modernist thought pre-occupations to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised; and
• multiple and/or vertical informational reflexivity	(And/Or) - adopts an oppositional standpoint on hegemonic research processes and practices on the generation of western scientific knowledge; with an initial political-legal value, but fails to mobilise and reconcile knowledge/value systems;
- the multiple deep, long termed and authentic assessment as outcomes approach, and/or vertical shallow, short termed and commodified output approach;	- adopts an oppositional standpoint on hegemonic research processes and practices on the generation of indigenous knowledge, with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems; including the unrealised potentially significant knowledge gap on late-modern, contemporary *kaitiakitanga* with specific regard to :
- the multiple reciprocal and benefit sharing approach, and/or the vertical exploitative legacies approach; and	* a more accurate and representative *Māori* voice for the advancement of *Māori* based on robust, scientifically sound and credible research that validates the contemporary phenomenon of *kaitiakitanga* in terms of:
- the multiple traditional ecological and adaptive knowledge and expertise approach, and/or the vertical non-incorporation and non-participation approach.	- the synergistic capacity of *te ao Māori/*indigenous knowledge and *ngā tikanga tūpato,* - *Māori* reflexivity; and - the detraditionalisation of *ngā tikanga tūpato.*

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/or vertical informational reflexivity	**-** adopts an oppositional stance on hegemonic research processes and practices on the incorporation and participation of *Māori*/indigenous communities in the generation of both western science and indigenous knowledge with an initial political-legal value but fails to mobilise and reconcile knowledge/value systems, including significant gaps on - i. *Kaupapa Māori* research considerations in the development of research proposals, topics and plans: - unethical and inadequate incorporation of *Māori tikanga* (both internal and external practices); - unethical and inadequate prior consultation with local *Māori* communities; - unethical and inadequate incorporation of local *Māori* community input - and participation in prior planning, proposal and topic development; - unethical and inadequate incorporation of *utu utu* research obligation toward ideological, material and practical reciprocation; - unethical and inadequate consideration of research funding, skill capacity, resources and infrastructural support, with particular regard to the ongoing failure to reflexively engage the detraditionalisation of cultural loss and survival, *Māori* reflexivity and late-modern synergy through the theory-methodological development and application of And/Also nuanced problem solving.

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/or vertical informational reflexivity	ii. *Kaupapa Māori* research considerations in the research implementation phase; - unethical and inadequate follow on incorporation of *Māori tikanga* (both internal and external practices) - unethical and inadequate follow on consultation with local *Māori* communities; - unethical and inadequate follow on incorporation of local *Māori* community input and participation in the implementation of the research; - unethical and inadequate follow on incorporation of *utu utu* research obligations toward ideological, material and practical reciprocation; and unethical and inadequate follow on consideration and provision of research funding, skill capacity, resources and infrastructural support, with particular regard to the ongoing failure to reflexively engage the detraditionalisation of cultural loss and survival, *Māori* reflexivity and late-modern synergy through the theory-methodological development and application of And/Also nuanced problem solving. iii. *Kaupapa Māori* considerations in the post research phase; - unethical and inadequate further follow on incorporation of *Māori tikanga* (both internal and external practices); - unethical and inadequate further follow on consultation with local *Māori* communities; - unethical and inadequate incorporation of further follow on local *Māori* community input and participation in research results, outcomes and benefits;

Table 6.1b continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/or vertical informational reflexivity • multiple and/also vertical informational reflexivity - the multiple deep, long termed and authentic assessment as outcomes approach, and/also vertical shallow, short termed and commodified output approach; - the multiple reciprocal and benefit sharing approach, and/also the vertical exploitative legacies approach; and - the multiple traditional ecological and adaptive knowledge and expertise approach, and/also the vertical non-incorporation and non-participation approach.	- unethical and inadequate further follow on incorporation of *utu utu* research obligations toward ideological, material and practical reciprocation; and - unethical and inadequate further follow on consideration and provision of research funding, skill capacity, resources and infrastructural support; with particular regard to the ongoing failure to reflexively engage the detraditionalisation of cultural loss and survival, *Māori* reflexivity and late-modern synergy through the theory-methodological development and application of And/Also nuanced problem solving. (And/Also) - adopts an And/Also standpoint on hegemonic research processes and practices on the generation of western scientific knowledge; to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains un-realised; and; - adopts an And/Also standpoint on hegemonic research processes and practices on the generation of indigenous knowledge, to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains unrealised;, including the potentially significant knowledge gap on late-modern, contemporary *kaitiakitanga* with specific regard to :

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability

• multiple and/also vertical informational reflexivity	* a more accurate and representative *Māori* voice for the advancement of *Māori* based on robust, scientifically sound and credible research that validates the contemporary phenomenon of *kaitiakitanga* in terms of:
	- the synergistic capacity of *te ao Māori/*indigenous knowledge and *ngā tikanga tūpato,*
	- *Māori* reflexivity; and
	- the detraditionalisation of *ngā tikanga tūpato,*
	
	- adopts an And/Also stance on hegemonic research processes and practices on the incorporation and participation of *Māori*/indigenous communities in the generation of both western science and indigenous knowledge to reflexively engage contemporary processes of late-modern synergy underpinning both knowledge/value systems for *Māori* advancement, but still remains un-realised, including the significant gaps on -
	
	i. *Kaupapa Māori* research considerations in the development of research proposals, topics and plans:
	  - unethical and inadequate incorporation of *Māori tikanga* (both internal and external practices);
	  - unethical and inadequate prior consultation with local *Māori* communities;
	  - unethical and inadequate incorporation of local *Māori* community input;
	  - and participation in prior planning, proposal and topic development;
	  - unethical and inadequate incorporation of *utu utu* research obligations toward ideological, material and practical reciprocation;

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/also vertical informational reflexivity	- unethical and inadequate consideration of research funding, skill capacity, resources and infrastructural support, with particular regard to the reflexive engagement of the detraditionalisation of cultural loss and survival, *Māori* reflexivity and late-modern synergy through the theory-methodological development and application of And/Also nuanced problem solving, which still remains unrealised. ii. *Kaupapa Māori* research considerations in the research implementation phase; - unethical and inadequate follow on incorporation of *Māori tikanga* (both internal and external practices); - unethical and inadequate follow on consultation with local *Māori* communities; - unethical and inadequate follow on incorporation of local *Māori* community input and participation in the implementation of the research; and - unethical and inadequate follow on incorporation of *utu utu* research obligations toward ideological, material and practical reciprocation; and - unethical and inadequate follow on consideration and provision of research funding, skill capacity, resources and infrastructural support, with particular regard to the reflexive engagement of the detraditionalisation of cultural loss and survival, *Māori* reflexivity and late-modern synergy through the theory-methodological development and application of And/Also nuanced problem solving, which still remains unrealised.

Table 6.1b   continued

Reflexive theory on the vertical/multiple models of sustainability	Reflexive practice on the vertical/multiple models of sustainability
• multiple and/also vertical informational reflexivity	iii. *Kaupāpa Māori* research considerations in the post research phase; - unethical and inadequate further follow on incorporation of *Māori tikanga* (both internal and external practices) - unethical and inadequate further follow on consultation with local *Māori* communities; - unethical and inadequate incorporation of further follow on local *Māori* community input and participation in research results, outcomes and benefits; - unethical and inadequate further follow on incorporation of *utu utu* research obligation toward ideological, material and practical reciprocation; and - unethical and inadequate further follow on consideration and provision of research funding, skill capacity, resources and infrastructural support; with particular regard to the reflexive engagement of the detraditionalisation of cultural loss and survival, *Māori* reflexivity and late-modern synergy through the theory-methodological development and application of And/Also nuanced problem solving, which still remains unrealised.

APPENDIX 7.1 *TUWHARETOA MĀORI* TRUST BOARD - FURTHER DETAILS

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1. Legislation:

Originally established under the *Māori* Land Amendment and *Māori* Land Claims Adjustment Act 1926, which provides an agreement between the Crown and *Ngāti Tuwharetoa* relating to the Lake *Taupō* fishery and public access to the lake and its tributaries. Administers compensatory costs (on behalf of beneficiaries) for access to the fishery.

Currently operates as a *Māori* Trust Board under the *Māori* Trust Board Act 1955. As stipulated in Section 24, the Board's main duty is to:

> Administer its assets for the general benefit of its beneficiaries and for that purpose, the board may at is discretion, provide money for the benefit or advancement in life of any specific beneficiary, or any class or classes of beneficiaries.

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2. Mission statement:

> *'Mahi Rangatira ki te Iwi'*
> Optimise the Tribal resources to maximise benefits for beneficiaries and provide leadership to aid the spiritual, cultural, intellectual and social development and solidarity of *Ngāti Tuwharetoa*

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3. Key achievements as *kaitiaki*:
- Lake *Taupō* title returned
- Co-management ventures such as *Tongariro* National Park and Native logging for state housing
- Co-operative conservation initiatives such as exotic forestry plantations and smelt revitalisation schemes
- Co-partnership initiatives such as the use of natural/physical resources and access through wilderness areas for the benefit of all New Zealanders
- Fishing negotiations to cooperatively manage the trout fishery for the benefit of all New Zealanders

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4. *Key duties as kaitiaki*:
- Distribution of funds to beneficiaries through education grants and other benefit schemes (for example, the *Kaumatua* grant and *marae* insurance initiatives)
- Co-management of the tribe's natural and physical resources
- Co-operative conservation initiatives
- Co-partnership/joint ventures
- Develop tribal assets
- Consultation of its activities as *kaitiaki*
- Administration of its activities as *kaitiaki*

For further details see http://*tuwharetoa*.co.nz/history/legislation.htm

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APPENDICES 7.2 - 7.4

PHOTOGRAPHS OF THE RESEARCH PARTICIPANT METHOD IN THE 2003 *MĀORI* RIVER COMMUNITY CASE STUDY FIELDWORK - BACKGROUND INFORMATION[159]

[160] These photographic images of the *Waitahanui* (W), *Oparau* (O) and *Harataunga* (H) river ecosystems introduce my use of photographs in the research participant method of the 2003 *Māori* river community case study fieldwork.

Note

From Cox, C. (1984). Postcard of *Watahanui* river picket fence fishing. New Zealand: Promotional Art Limited. Copyright 1984 by Promotional Art Limited. Adapted with permission.

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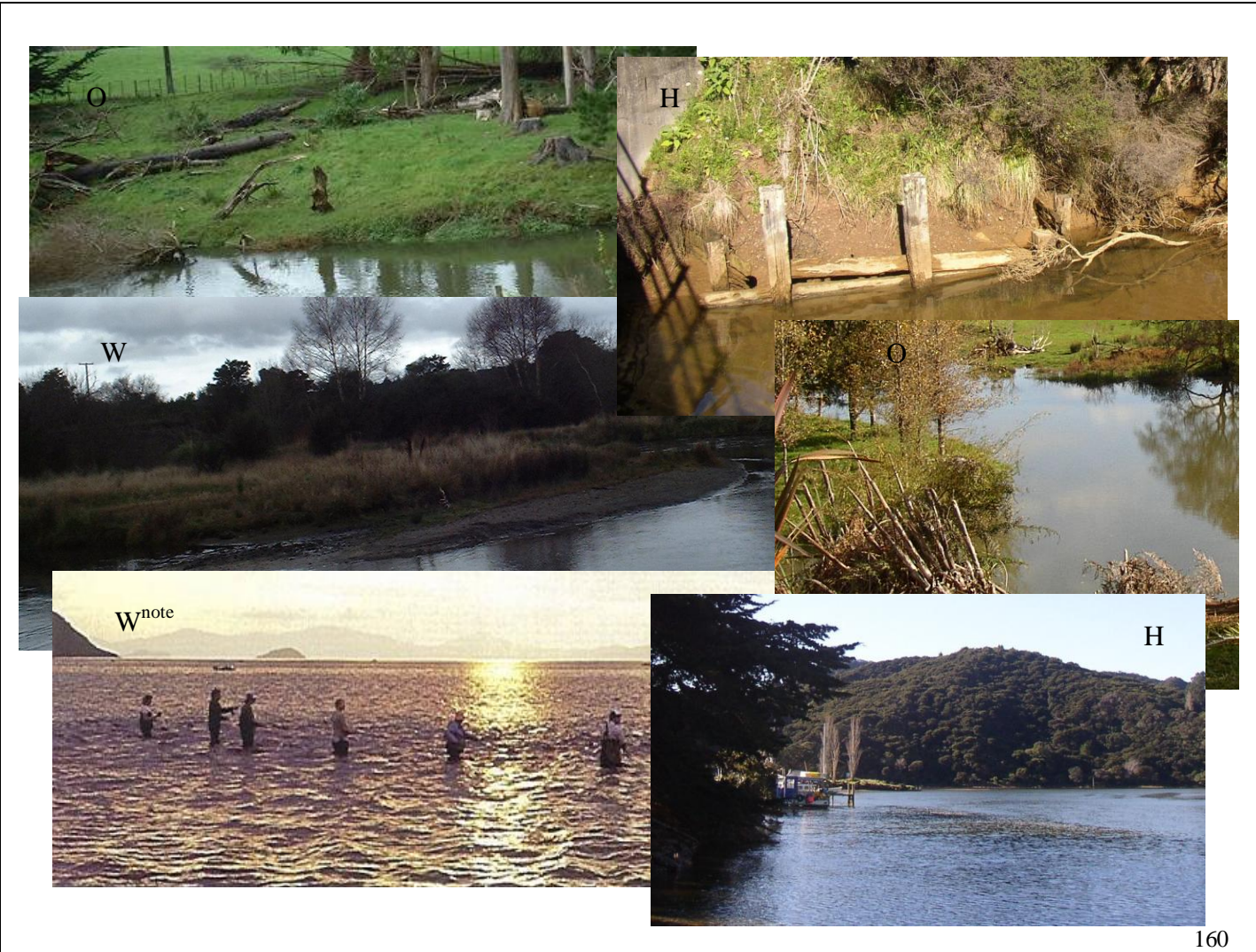
[159] The following appendices *(Appendices 7.2 - 7.4)* provide background information on the observable data of the 2003 *Māori* river community case study fieldwork*;* that being,

i. the photographs of the research participant method in the 2003 *Waitahanui* river community case study fieldwork *(Appendices 7.2a,b,c);*

ii. the photographs of the research participant method in the 2003 *Oparau* river community case study fieldwork *(Appendices 7.3a,b,c);* and

iii. the photographs of the research participant method in the 2003 *Harataunga* river community case study fieldwork *(Appendices 7.4a,b,c).*

162[Note]

APPENDICES 7.2a,b,c PHOTOGRAPHS OF THE RESEARCH PARTICIPANT METHOD IN THE 2003 *WAITAHANUI* RIVER COMMUNITY CASE STUDY FIELDWORK - BACKGROUND INFORMATION[161]

[162] This 2003 postcard photo (purchased from Windsor Lodge, State Highway One, *Waitahanui)* shows off the world renowned 'picket fence' of *Waitahanui* river trout fishing, consisting of a close formation of fisherman in a line.

For further details see Draper (1969); Fletcher (1980); Gibbs (2003); & Hintz (1975; 1955).

Note

From Cox, C. (1984). <u>Postcard of *Waitahanui* river picket fence fishing.</u> New Zealand: Promotional Art Limited. Copyright 1984 by Promotional Art Limited. Printed with permission.

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[161] The following appendices *(Appendices 7.2a,b,c)* provide background information on the photographs which were taken in the research participant method of the 2003 *Waitahanui* river community case study fieldwork .

APPENDICES 7.2ai,ii,iii,iv,v,vi   *WAITAHANUI* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS[163]
Appendix 7.2ai   *Waitahanui* local river *kaitiakitanga* - case example photo 1

[164] As a world renowned trout river fishery, the *Waitahanui* river is a popular tourist attraction, signposted by visitor information (see adjoining photo from fieldwork visit 3, 2003).   Other recreational river uses of the *Waitahanui* river include walking, swimming and tourist recreation such as art and crafts, camping and river fishing tours. For further details see www.windsorlodge.co.nz.

164

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[163] The following appendices provide case example photos on *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2aii *Waitahanui* **local river** *kaitiakitanga* **- case example photo 2**[165]

previous generation of cattle farming
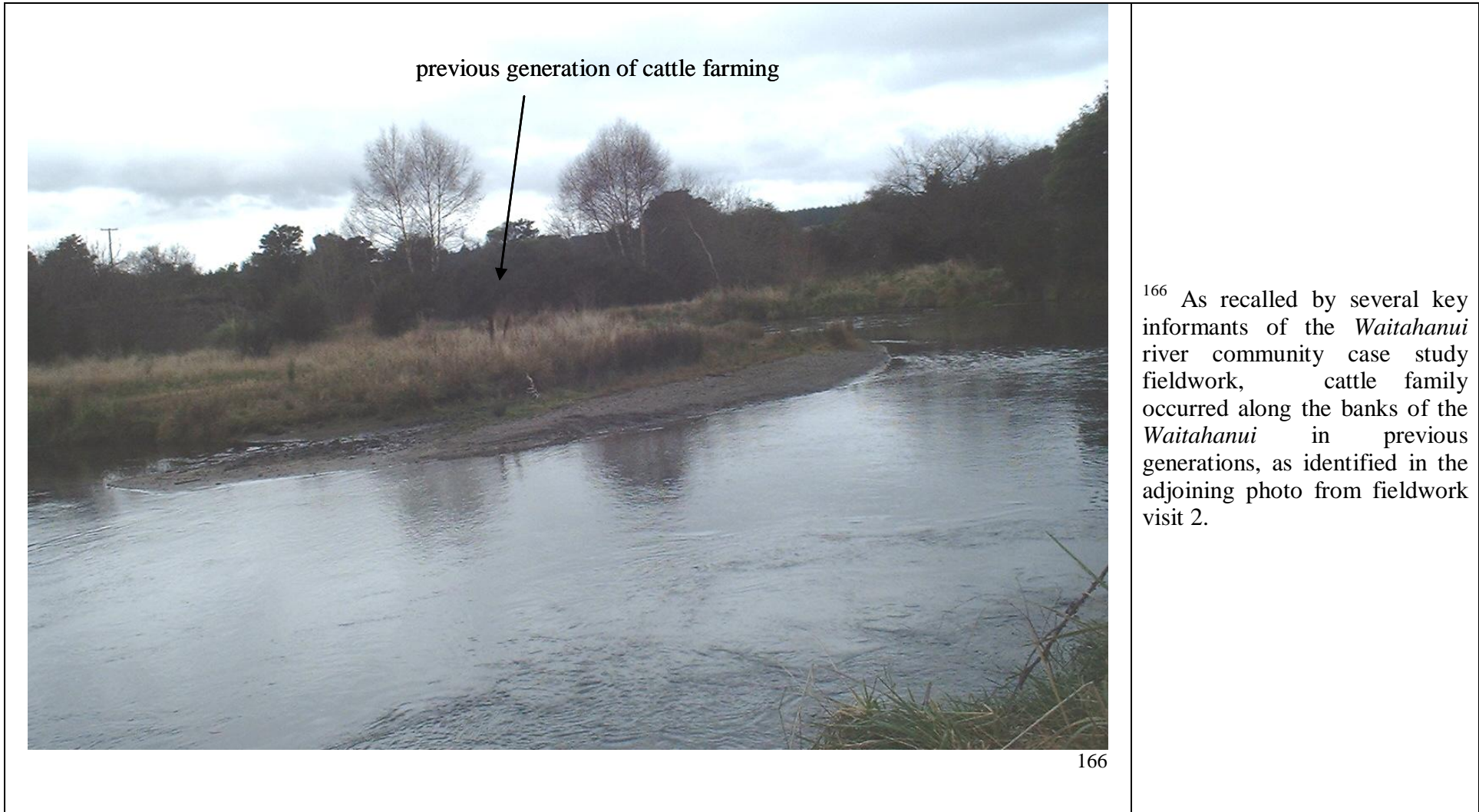
[166] As recalled by several key informants of the *Waitahanui* river community case study fieldwork, cattle family occurred along the banks of the *Waitahanui* in previous generations, as identified in the adjoining photo from fieldwork visit 2.

166

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[165] This appendix *(Appendix 7.2aii)* depicts case example photo 2 on *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2aiii *Waitahanui* local river *kaitiakitanga* - case study example photo 3[167]

168

[168] When in season, the banks of the *Waitahanui* river are covered with blackberry bushes, as indicated by the arrow in the adjoining photo from fieldwork visit 10.

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[167] This appendix *(Appendix 7.2aiii)* depicts case example photo 3 on *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2aiv   *Waitahanui* **local river** *kaitiakitanga* **- case example photo 4** [169]

[170] This stretch of the *Waitahanui* river adjoins both to Lake *Taupō* (at the rear) and State Highway One (right hand side) - see adjoining photo from fieldwork visit 7.

170

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[169] This appendix *(Appendix 7.2aiv)* depicts case example photo 4 on *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2av   *Waitahanui* local river *kaitiakitanga* - case example photo 5[171]

172 The *Waitahanui* river eco-system is surrounded by service provision for the tourist trade (see adjoining photo from fieldwork visit 7, 2003).

172

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[171] This appendix *(Appendix 7.2av)* depicts case example photo 5 on *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2avi *Waitahanui* **local river** *kaitiakitanga* **- case example photo 6**[173]

[174] Tourist trade service provision along the *Waitahanui* river includes reminder notices about rubbishing littering (see adjoining photo from fieldwork visit 6, 2003).

174

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[173] This appendix *(Appendix 7.2avi)* depicts case example photo 6 on *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

APPENDICES 7.2bi,ii,iii,iv,v,vi,vii,viii,ix   OFFICIAL DISCOURSE AND *WAITAHANUI* LOCAL RIVER *KAITIAKITANGA*[175]
Appendix 7.2bi   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 1[176]

The Waitahanui River

UPPER POOLS

SUPPLIED BY

WINDSOR LODGE
MOTEL/CARAVAN PARK
S.H.1
WAITAHANUI
TAUPO
07 378 6271

KEY

177[Note]
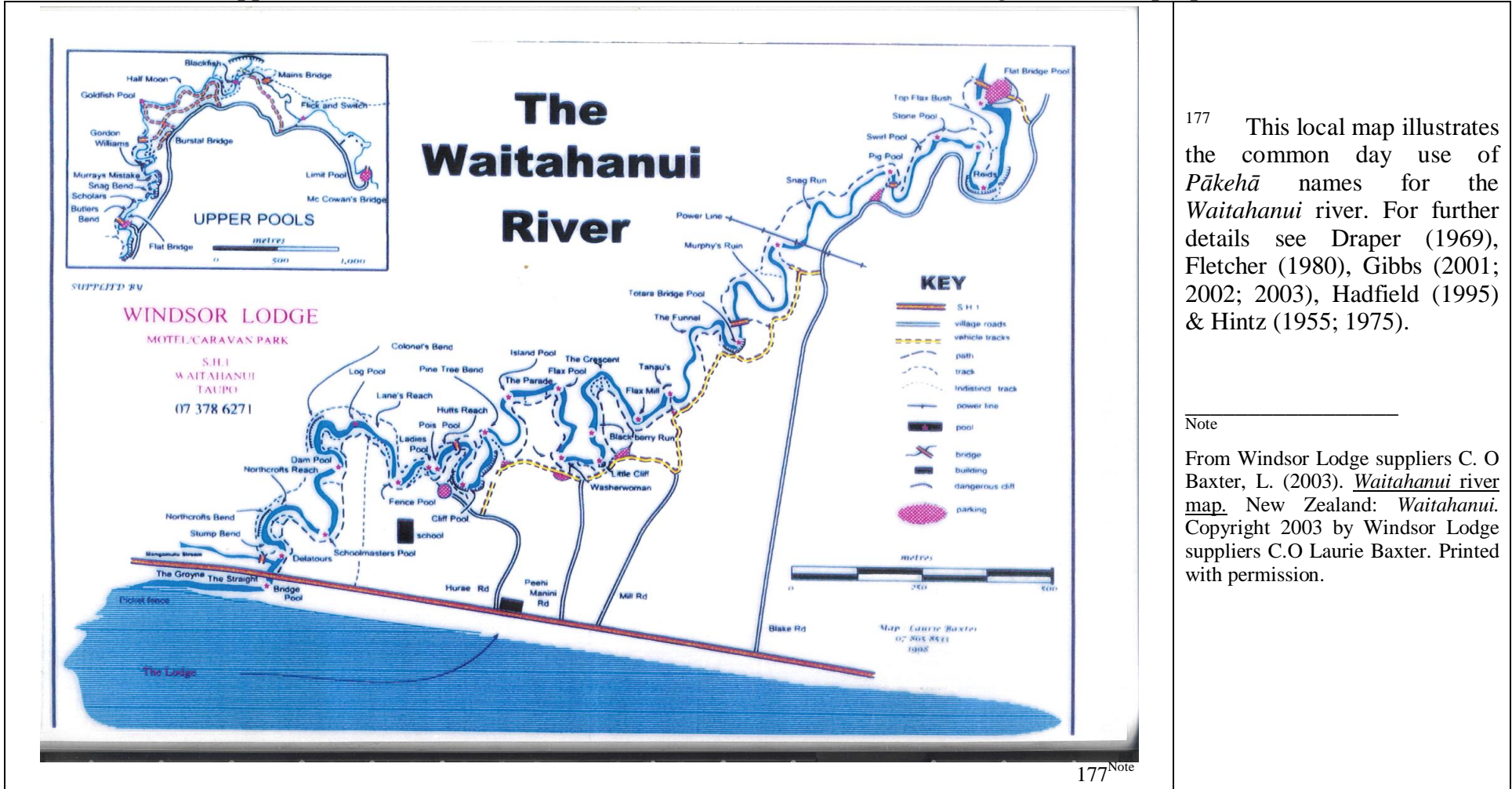
[177]   This local map illustrates the common day use of *Pākehā* names for the *Waitahanui* river. For further details see Draper (1969), Fletcher (1980), Gibbs (2001; 2002; 2003), Hadfield (1995) & Hintz (1955; 1975).

Note

From Windsor Lodge suppliers C. O Baxter, L. (2003). *Waitahanui* river map. New Zealand: *Waitahanui*. Copyright 2003 by Windsor Lodge suppliers C.O Laurie Baxter. Printed with permission.

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[175]   The following appendices (*Appendices 7.2bi,ii,iii,iv,v,vi,vii,viii,ix*) provide case study example photos on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

[176]   This appendix *(Appendix 7.2bi)* depicts case example photo 1 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2bii   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 2[178]

After 25 years, John has his own Waitahanui pool

Taupo Times.
9/11/99

By Dylan Thorne

When the Waitahanui Fishing Club named a pool after guide John Johnson it was the consummation of a relationship that began 25 years ago when an English immigrant found his spot on the banks of a river he now calls home. The *Taupo Times* caught up with him last week.

John Johnson's on the move. His four-wheel drive bumps its way over an uneven Blake Road, past the rough playing fields of the local rugby club, the Gordon Williams Pool, the pongas and broom that line the way.

His sharp blue eyes scan the berm – refuse is his pet hate and he's forever cleaning up his beloved Waitahanui. He slows to glance at the Gordon Williams pool – "a wonderful fishing hole".

This is his river, a rugged, beautiful place that draws fishermen from around the world.

The sky's overcast and the rain's setting in... perfect for fishing.

At the end of the track a small bridge extends over the river. The water below is dark blue, fed by a mountain spring and clear as day.

On the other side of the bridge, equipped with waders, fishing rod and a dark brown raincoat, John follows a bush track and turns toward his favourite fishing spot.

As he walks he tells a great story about fishing.

"When you're out on the river you're not a company director or a manager. You're a fisherman full stop. I've taken Dame Cath Tizard fishing twice. The first time she bagged a trout. The second time she had no luck at all. It goes to show, fish don't care who you are or how much money you earn."

He stops on the river's edge, wades into the water

and out of sight. The tip of his rod can be seen flicking back and forward above a line of flax.

Welcome to his office...Johnson's Pool.

Earlier this year the club decided to name a pool in honour of the work he has carried out on the banks of the river. He couldn't think of a better reward for the clean-ups he's organised every six months for the past 14 years.

"Generally the people who get pools named after them have done something for the environment. It's a bit of an honour."

He got to choose the pool that would carry his name. It wasn't a difficult decision. Johnson's pool is located at the end of a particularly rough track.

"I chose this pool because it's far enough upstream to keep the punters away. I enjoy coming here. I like the peace and quiet."

He plans to place a sign by the pool.

"Most of the pools here no-one knows how they got their name, like Gordon Williams, and Murray's Mistake. I plan to put a sign up near mine so everyone knows exactly who it's been named after."

John doesn't know how much longer he will organise the clean-up or continue fishing.

At 76 he's arguably the oldest fishing guide in New Zealand. So why is he still in the game? He says he couldn't better the explanation of author John Buchan.

"The charm of fishing is the pursuit of what is elusive but attainable - a perpetual series of occasions and hopes."

John Johnson will be staging a clean-up along the banks of the Waitahanui River this Sunday. Anyone interested in lending a hand should ring him on 378 8822 or meet at 16 Peehi Manini Rd Waitahanui at nine o'clock. You'll be finished at 11.

JOHN JOHNSON: In pursuit of what is elusive but attainable.
Photo Hamish McEwen

[179]   This newspaper article reports on the *Pākehā* naming of a *Waitahanui* pool, named 'Johnson's pool' (see adjoining photo from fieldwork visit 7, 2003).

Note

From Thorne, D. (1999). After 25 years, John has his own *Waitahanui* pool. *Taupō,* New Zealand: *Taupō* Times. Copyright 1999 by *Taupō* Times. Printed with permission.

179[Note]

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[178] This appendix *(Appendix 7.2bii)* depicts case example photo 2 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2biii   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 3[180]

Taupo Times, Tuesday November

NICK WALL: What the hell was Murray's Mistake?   Photo Hamish McEwen

Consult us over pool names, kaumatua demands

By Dylan Thorne

Waitahanui kaumatua John Hoani Wall has had enough.

He's fed up with people ignoring the long-established link Ngati Tutemohuta has with the Waitahanui River.

Earlier this month the *Taupo Times* reported that the Waitahanui Angling Improvement Society had named a pool after one of its members, Johnnie Johnson, in recognition of his clean-ups along the river.

Mr Wall is upset the society did not consult with Ngati Tutemohuta before naming the pool.

"The Tuwharetoa Maori Trust Board holds the titles to the river on behalf of the hapu.

"People must not claim the mana of Ngati Tutemohuta."

He feels a knighthood would be a more appropriate way of recognising the work of Mr Johnson.

"He has done a lot of good work. I think he should be nominated for a knighthood."

Mr Wall says it is not a personal issue.

"I know Johnnie on speaking terms. I am not making a personal attack on him; it's just that nobody has the right to name a pool without approval from the tribe. We own the bed of the river."

Mr Wall says many of the pools along the Waitahanui River already have names. They are simply ignored.

"People come along and put their own names on the pools.

"All these pools already had names. People forget that and name parts of the river without recognition from the sub tribe.

"There's no such thing as Murray's Mistake. What the hell was Murray's Mistake?

"There's also the Groin. That part of the river is actually called Ngaurupa Northcroft. And Gordon Williams Pool - it's not called that at all. It's actually called Hurae's Pool, named after a kaumatua who lived on the riverbank in that area for years."

Mr Wall says people have no right to claim the heritage of the river.

"We will be consulting with the people about access to the river. The land belongs to Maori.

"It could be possible that the hapu will close access to the river.

"We want to remind them that New Zealand is to be shared. No one has the right to tramp on the mana of the hapu. It is the water they drink, the river they swim in. It is their heritage."

181[Note]

[181] In this newspaper article, a local *kaumatua,* elder highlights the importance of *Māori* consultation over pool names (see adjoining photo from fieldwork visit 2, 2003).

Note

From Thorne, D. (1999). Consult us over pool names, *kaumatua* demands. *Taupō,* New Zealand: *Taupō* Times. Copyright 1999 by *Taupō* Times. Printed with permission.

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[180] This appendix *(Appendix 7.2biii)* depicts case example photo 3 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2biv   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 4 [182]

Taupo Times, Friday November 26 1999

NOVEMBER 1999

Sign of authority . . .

The Waitahanui Fishing Club recently found cause to name a certain pool after fishing guide Mr John Johnson (*Taupo Times* November 9).

I know Mr Johnson and personally don't have any problems with that consent, or anyone else for the matter. The Waitahanui Fishing Club doesn't have sole say over the river issues.

The problem is he now proposes to place a sign at the pool so everyone knows exactly who it is named after.

I think it needs to be brought to the people's attention that all of the land above the sealed end of Blake Road is in Maori own-ership – both sides of the river (ie: it is private property) and we all know what that means.

So, technically speaking, Mr Johnson has no authority to erect his sign at this pool that he so loudly proclaims is "his" pool.

Should Mr Johnson decide to continue on and do what he's publicly said he'd do, then I think he'd better start talking to the right people – tangata whenua – or he might find that he's not only fishing for fish, but a sign as well!

Harvey Karaitiana
landowner/trustee

Letters

Taking issue with pool naming critic . . .

In reference to the article on Nick Wall's criticism of naming of the pool on Waitahanui River after Johnnie Johnson in recognition of his clean-ups along river....

Although a pakeha, I have a close association with Maori land and river interests on the eastern side of the lake via my 25-year relationship and stepchildren who hold shares in such — not I might say in the actual area concerned.

I also happen to be a dedicated trout fisherman of nearly 50 years which played some part in my decision to come to New Zealand 30 years ago.

I have also studied a number of Maori claims in detail, the Mohaka one being one and relevant to my extended family.

Having done so, I have considerable sympathy for the Maori position in numerous areas coming from suppressed stock myself.

However, it is as a fisherman that I take issue with Nick Wall.

Taupo Maoris receive a considerable amount of money by way of added licence fees required in Taupo which do not apply in any other areas of New Zealand. Why?

This for a resource they had no part in creating, in a lake that had very limited food resources in it.

Despite this, under the customary fishing rights nonsense I've seen first hand the massive abuse of this resource at times.

Perhaps Mr Wall could indicate exactly why Johnnie Johnson was required to do the clean-ups and how much input he and other owners assisted him with.

He might also like to indicate why pakehas are always expected to respect the protocol of the Maori but a big section of Maoridom does not respect that of the pakeha.

As Nick says in the last sentence of the article, it is our heritage not his or his tribe's or anyone else's under a sovereign nation flag.

We need to work closely together and respect each other.

If Mr Johnson was worthy of a knighthood then perhaps a compromise could be reached by say naming a track between pools the Johnson walk-way or track.

DJ Williams, Napier

Why this action?

Could the secretary of the Tauhara Mountain Trust please explain why the mountain is so very sacred to Maori that access is to be prohibited to all New Zealanders from December 24 1999 until January 3 2000.

Why should it not be accessible until December 31 1999 if all the trust is concerned about is vandalism occurring with millennium parties on the summit? Perhaps the trust thinks that the public will spend from December 24 until 31 carrying up supplies.

It rather surprises me that the trust has not opted for a toll on those keen enough to climb to Taupo's highest elevation to see the sunrise on January 1 rather than try to stop access altogether.

I B Dixon

183[Note]

183[Note]

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[182] This appendix *(Appendix 7.2biv)* depicts case example photo 4 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2bv   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 5[184]

The letter depicted reads:

TUWHARETOA MAORI TRUST BOARD

Office of the

THE SECRETARY
TUWHARETOA MAORI TRUST BOARD
P.O. BOX 87, TURANGI 2751, NEW ZEALAND

Phone   TURANGI 07-388 5832
Fax   TURANGI 07-386 8233

20 December 1999

David Street
Waitahanui Anglers Ass
C/o Post Office
Waitahanui
State Highway 1

Tena Koe David

Johnsons Pool

Thank you for your letter of 24 November 1999 regarding the above.

It is unfortunate that prior approvals had not been sought from the Board and Ngati Tutemohuta as it would have saved everyone a lot of time in discussing something that the landowner has not approved.

Pursuant to the 1992 Lake Bed and Tributaries agreement The Tuwharetoa Maori Trust Board on behalf of the adjoining Hapu; is the owner of the Bed of the Waitahanui River and streams flowing therein. The Board has been advised by Ngati Tutemohuta that they do not wish the name to be placed on any part of the river.

The Board concurs with the wishes of the Hapu and does not give its consent for the name to be placed on its property. To that effect there

Page 1   185[Note]

[185] As provided by a local key informant, official correspondence from the *Tuwharetoa Māori* Trust Board follows the pool naming matter/page 1 (see adjoining photo from fieldwork visit 7, 2003).

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Note

From *Taiaroa,* R. (1999). Johnsons Pool correspondence, (p. 1). *Turangi,* New Zealand: *Tuwharetoa Māori* Trust Board. Copyright 1999 by *Tuwharetoa Māori* Trust Board. Printed with permission.

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[184] This appendix *(Appendix 7.2bv)* depicts case example photo 5 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2bvi   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 6[186]

will be no signs erected near or on the river. If a sign has been erected it must be taken down immediately.

No such name will be submitted to Land Information New Zealand for registration.

The Board in giving this direction however notes that Mr Johnson has contributed much to Waitahanui River fishery and thanks him for his efforts.

I hope this letter gives clarification to the landowner's opinion on this matter and the requirement to seek approvals direct from the Board in future.

Na

Rakeipoho Taiaroa
Secretary

Page 2

187[Note]

[187] Page 2 of *Appendix 7.2bv* (see adjoining photo from fieldwork visit 7, 2003).

Note

From *Taiaroa,* R. (1999). Johnsons Pool correspondence, (p. 2). *Turangi,* New Zealand: *Tuwharetoa Māori* Trust Board. Copyright 1999 by *Tuwharetoa Māori* Trust Board. Printed with permission.

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[186] This appendix *(Appendix 7.2bvi)* depicts case example photo 6 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2bvii   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 7[188]

Daoc   07 5   041 -
     07   2731892

Waitahanui Angling Improvement Assn.

c o Post Office

Waitahanui

S.H.1

24 11 99

Dear Sir.

On behalf of the Waitahanui Angling Imp. Assn. I wish to apologise for the negative reaction locally to the nameing of a pool on the Waitahanui river. namely "JOHNSONS" in recognition of John Johnsons many years of organising rubbish clean up days around the river.

It is obvious there has been a complete lack of communication between the Assn. and the Ngati Tuwharetoa.

I. as president of the Angling Assn. must accept responsability for this oversight. because I did not check with my Vice-President who at the time was Mr Tom Northcroft. and one or two other committee members.

The A.G.M. of the Assn. was held on the evening of June 28th 1999 when a committee member produced a sign already painted and named. so I automatically assumed all the necessary consultation had taken place. that was the moment I should have checked and didn't. for which I apologise.

Nothing further will be done on this issue until such time as. at the pleasure of the Ngati Tuwharetoa Trust board. perhaps the local Waitahanui members of the board or other interested board members may wish to meet some of the executive of the Waitahanui Angling Assn. this could perhaps be of considerable benefit to both parties. especially. if any "hiccups" in the future can be avoided.

189[Note]

[189]   Further correspondence followed (see adjoining photo from field visit 5, 2003).

Note

From *Waitahanui* Angling Improvement Association (1999). Johnsons Pool correspondence, (p. 1). *Waitahanui,* New Zealand. Copyright 1999 by *Waitahanui* Angling Improvement Association. Printed with permission.

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[188] This appendix *(Appendix 7.2bvii)* depicts case example photo 7 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2bviii   Official discourse and *Waitahanui* local river *kaitiakitanga* - case study photo 8 [190]

14·1999   Letters Taupo Times 14-12-99

Naming of pools . . .

I respond to your correspondent D J Williams, *Taupo Times* November 26.

I have to say, I disagree with some of Mr Wall's comment re naming of pools in the Waitahanui River.

The naming of pools in the Waitahanui River, or any other New Zealand river is nothing more than one of sentimental value only — it's really an outdoor thing and in that context shouldn't be construed as taking the mana from hapu or others.

The rivermouth or Picket Fence will always be identified as the river's outlet wherever that might be at any given time.

It's nationally and internationally known as that; postcards depict it as such, and so does radio, television, newspapers and local people, and always has been as far back as I can remember.

Then we have the Bridge Pool (and that's logic) Watercress Pool, Stump Pool, and numerous others. But like Murrays Mistake, they too with the ever changing mood and direction that rivers ultimately take are doomed to die and fade into oblivion.

The basic reason why I could not support a sign structure at "Johnie Johnson's Pool" or every other pool for that matter. Makes sense?

Theoretically it's no different to other outdoor activity. Rabbit Patch and the Bullring are geographically identified on the standard issue of the old Lands and Survey 1 inch:1 mile topographical survey map.

Precedence has already been set and that's Tutemohuta country.

People tend to attach an affinity to certain places, and generally reflect an experience, incident, or in this case a

For me I couldn't care less as long as there's fish still in there when I get there. The day will come, however, when the top end of Blake Road will be closed off to vehicular traffic anyway, in the interests of safety and fire prevention.

Tauhara Mountain closes periodically and generally because of the implications and risks the statutory requirements of the Occupational Safety and Health regulations hold for local owners, and this may well occur here — and I agree with it!

Tuwharetoa Maori Trust Board, in my view is indulging in trivialities. Instead it should strive for better things and, in this instance, work towards restoring some of its composure and trust it lost to Ngati Tutemohuta in 1983 — in the Maori land (river) Crown land (Tauhara) exchange debacle, when in fact it was Maori land for Maori land.

Its members should devote the next three years of its term, in having that court decision overturned — or step down!

The application was so well disguised and professionally presented that all those present were swayed from their original opposition stance and I eventually supported the application.

All, that is except my beautiful and proud mother-in-law, the late Rangituranga Hapeta Wimata Te Heuheu.

Looming on the horizon some 16 years later, but another dark and ominous cloud for Ngati Tutemohuta.

The Awaroa Recreation Reserve development DOC/Board member orientated concession scam!

Is this not a repeat of history — the

2·-12-99   Taupo Times, Thursday December

Letters

Access to mountain

Some issues have been raised in regard to the closure of public access to Mt Tauhara over the Christmas/New Year break that require clarification.

The public should be reminded that although the mountain is a signficant cultural icon, any suggested closure of access by the relevant trustees is only taken after careful consideration.

Recently it was brought to the attention of the responsible trustees that several functions were planned on the summit as New Year's Eve celebrations and it was decided, following consultation with the Police Department, that access be withdraw for a short period only.

The public should be aware that the only authorised access to the mountain is made freely available over farmland on the foothills that is administered quite separately from the Mountain Reserve.

This freedom of access has not always been treated with respect by visitors with numerous occasions of gates left open, hunting, dogs brought onto the property, general disruption of farm activities and the odd case of vandalism and sheep worrying.

The Tauhara Middle 15 farm trustees reserve the right to close access at any time for any reason, but also recognise the mountain track as a significant tourist activity enjoyed by the many thousands that annually partake of the opportunity.

Maori Reservation Regulations state clearly that any public gathering or activity on or in

relation to the reserve itself may not be conducted without the authorisation of the trustees.

The relevant trustees for both the mountain and farm property are not waving a big stick at this time, but would ask the public to recognise that they have exercised their authority in good faith for a considerable number of years and there will be a continuation of public access, as will be notified, following the brief closure over the Christmas/New Year period.

G H Davey

191 [Note]

[190] This appendix *(Appendix 7.2bviii)* depicts case example photo 8 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2bix   Official discourse and *Waitahanui* local river *kaitiakitanga* - case example photo 9[192]
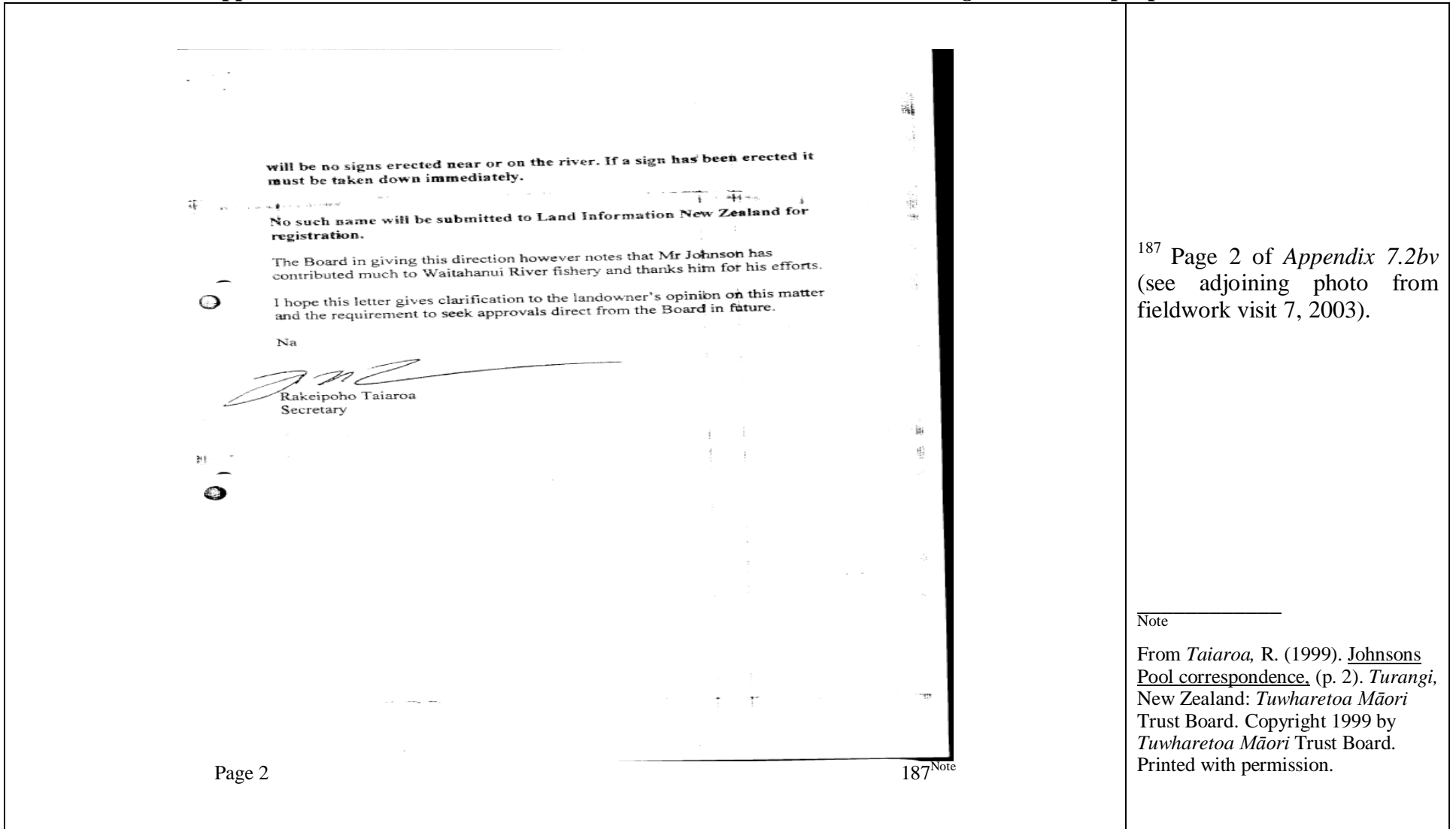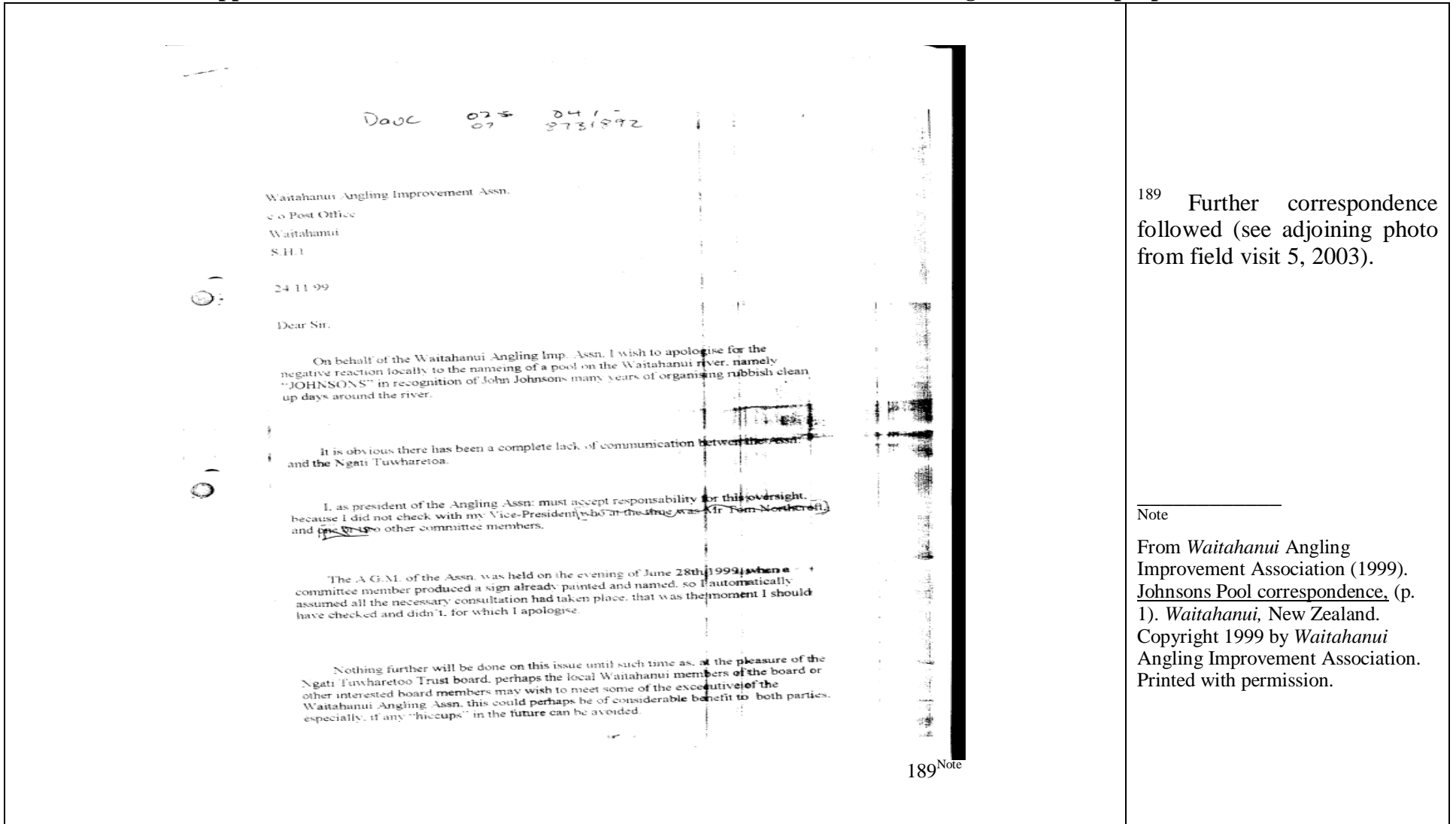
Taupo Times, Friday November 26 1999

Letters

Taking issue with pool naming critic . . .

In reference to the article on Nick Wall's criticism of naming of the pool on Waitahanui River after Johnnie Johnson in recognition of his clean-ups along river....

Although a pakeha, I have a close association with Maori land and river interests on the eastern side of the lake via my 25-year relationship and stepchildren who hold shares in such — not I might say in the actual area concerned.

I also happen to be a dedicated trout fisherman of nearly 50 years which played some part in my decision to come to New Zealand 30 years ago.

I have also studied a number of Maori claims in detail, the Mohaka one being one and relevant to my extended family.

Having done so, I have considerable sympathy for the Maori position in numerous areas coming from suppressed stock myself.

However, it is as a fisherman that I take issue with Nick Wall.

Taupo Maoris receive a considerable amount of money by way of added licence fees required in Taupo which do not apply in any other areas of New Zealand. Why?

This for a resource they had no part in creating, in a lake that had very limited food resources in it.

Despite this, under the customary fishing rights nonsense I've seen first hand the massive abuse of this resource at times.

Perhaps Mr Wall could indicate exactly why Johnnie Johnson was required to do the clean-ups and how much input he and other owners assisted him with.

He might also like to indicate why pakehas are always expected to respect the protocol of the Maori but a big section of Maoridom does not respect that of the pakeha.

As Nick says in the last sentence of the article, it is our heritage not his or his tribe's or anyone else's under a sovereign nation flag.

We need to work closely together and respect each other.

If Mr Johnson was worthy of a knighthood then perhaps a compromise could be reached by say naming a track between pools the Johnson walkway or track.

DJ Williams, Napier

NOVEMBER 1999

Sign of authority . . .

The Waitahanui Fishing Club recently found cause to name a certain pool after fishing guide Mr John Johnson (*Taupo Times* November 9).

I know Mr Johnson and personally don't have any problems with that consent, or anyone else for the matter. The Waitahanui Fishing Club doesn't have sole say over the river issues.

The problem is he now proposes to place a sign at the pool so everyone knows exactly who it is named after.

I think it needs to be brought to the people's attention that all of the land above the sealed end of Blake Road is in Maori ownership – both sides of the river (ie: it is private property) and we all know what that means.

So, technically speaking, Mr Johnson has no authority to erect his sign at this pool that he so loudly proclaims is "his" pool.

Should Mr Johnson decide to continue on and do what he's publicly said he'd do, then I think he'd better start talking to the right people – tangata whenua – or he might find that he's not only fishing for fish, but a sign as well!

Harvey Karaitiana
landowner/trustee

193

194[Note]

[193] Newspaper article about the pool naming matter (see adjoining photo from fieldwork visit 7, 2003).

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[194] Note
From Williams, D.J (1999). Taking issue with pool naming critic. *Taupō,* New Zealand: *Taupō* Times. Copyright 1999 by *Taupō* Times. Printed with permission.

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[192] This appendix *(Appendix 7.2bix)* depicts case example photo 9 on official discourse and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

APPENDICES 7.2ci,ii,iii,iv,v,vi,vii,viii,ix,x,xi,xii,xiii,xiv,xv   DIVERSE/MULTI-REFLEXIVITY AND *WAITAHANUI* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS [195]
Appendix 7.2ci   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 1[196]

[197] An example of graffiti in the surrounds of the *Waitahanui* river ecosystem (see adjoining photo from fieldwork visit 2, 2003).

197

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[195] The following appendices *(Appendices 7.2ci-cxv)* provide case example photos on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.
[196] This appendix *(Appendix 7.2ci)* depicts case example photo 1 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2cii   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 2[198]

[199] A sign post erected during the fieldwork period (see adjoining photo from fieldwork visit 2, 2003).

199

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[198] This appendix *(Appendix 7.2cii)* depicts case example photo 2 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2ciii   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 3[200]

[201] Newspaper articles about local fishing rights and monetary compensation (see adjoining photo from fieldwork visit 3, 2003).

Note

From Articles section, (1948). Selected articles. *Taupō,* New Zealand: *Taupō* Times. Copyright 1948 by *Taupō* Times. Printed with permission.

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[200] This appendix *(Appendix 7.2ciii)* depicts case example photo 3 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2civ   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 4[202]

No clean-up

Taupo Times
7/6/2002

Due to unforeseen circumstances, the six-monthly clean-up at the Waitahanui River will no longer take place.

On behalf of my late husband John Johnson, I would like to express appreciation to all those stalwart people and the sponsors, Woolworths and Grantleys, who supported us over many years.

Thank you all very much.

— Joyce Johnson

203[Note]

[203]   Notice about the *Waitahanui* river clean-up expeditions (see adjoining photo from fieldwork visit 3, 2003).

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Note

From Johnson, J. (2002). No clean-up. *Taupō*, New Zealand: *Taupō* Times. Copyright 2002 by *Taupō* Times. Printed with permission.

_____

[202] This appendix *(Appendix 7.2civ)* depicts case example photo 4 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2cv   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 5[204]

inclusive language and bring people to

Taupo Weekender
23 April 1998

Waitahanui River clean

People are invited to join John Johnson on Sunday for one of his regular Waitahanui River clean ups.

Meet at 16 Peehi Manini Street at 9am to receive bags, do the clean up then return at 11am for refreshments at the whare at the Windsor Motel.

205[Note]

[205] River clean-up notice (see adjoining photo from fieldwork visit 2).

Note

From Public notices section, (1998). <u>*Waitahanui* River clean.</u> *Taupō,* New Zealand: *Taupō* Times. Copyright 1998 by *Taupō* Times. Printed with permission.

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[204] This appendix *(Appendix 7.2cv)* depicts case example photo 5 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2cvi   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case study photo 6[206]

Rubbish concerns

It is hoped members of the public will in future note car numbers and/or descriptions of people dumping rubbish in the riverside area at Waitahanui. Concerns about this problem were expressed at a meeting of the Lakes and Waterways Action Group with the hope that the public will help and be prepared to advise Taupo District Council.

Litterers are liable to an instant fine of $100.

207[Note]

[207] Public notice about rubbish littering (see adjoining photo from field visit 1). Source: *Taupō* Times, 7 May, 2002.

Note

From Public notices section (2002). Rubbish concerns. *Taupō,* New Zealand: *Taupō* Times. Copyright 2002 by *Taupō* Times. Printed with permission.

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[206] This appendix *(Appendix 7.2cvi)* depicts case example photo 6 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2cvii   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case study example photo 7[208]

The embedded article reads:

Waitahanui River Access

by John Gibbs

Since the last story a gate was briefly and illegally erected on Hurae Road, a public road at Waitahanui, but subsequently removed at the request of the Taupo District Council. Trees were then felled over the river-bank track above the Cliff Pool in Wharekawa scenic reserve in an apparent attempt to prevent public access in the reserve.

Over this period there have been a growing number of confrontations with anglers by local residents seeking to have them leave the river or its banks. Several vehicles have been deliberately damaged and recently an angler was allegedly assaulted and had his fly rod broken by a group of men who were demanding that he leave the river. One landowner has demanded that DOC cease maintaining walking tracks within the ROW.

Understandably, these events have caused a considerable amount of concern and uncertainty among anglers and the general public as to just what their access rights and responsibilities are on the Waitahanui River. Some, choosing to avoid the unpleasantness, either no longer fish the Waitahanui or have left the Taupo fishery altogether. This article seeks to explain the practical and legal issues governing the land and access to and over it.

Taupo rights-of-way

The ROWs applying to Lake Taupo and its tributary rivers are unique and, while often confused with the so-called Queen's Chain that sometimes applies elsewhere in New Zealand, are in fact significantly different (see separate article in this issue). The Taupo ROWs allow access over the specified strips (20m from the legal margins of the lake and specified portions of the rivers) but leave the underlying title in Maori ownership. Their purpose is more specific and constrained than a Queen's Chain.

Over 75 years ago the Crown negotiated an arrangement with Ngati Tuwharetoa, the owners of the beds of Lake Taupo and its tributaries, to provide for public access to and use of the lake, and fishing access to specified parts of the rivers. In return for this access, the iwi, through the Tuwharetoa Maori Trust Board, receives an annual payment from the Crown equivalent to half the revenue received from fishing licences and boating fees. This agreement was cemented in the Maori Land Amendment and Maori Land Claims Adjustment Act of 1926.

There are two types of ROW under the Act. The first is a 20m wide strip of land around the margin of Lake Taupo over all land that was Maori land at that time and allows for free public access and use providing the ROW is not obstructed. The second is ROW on foot for licensed anglers only over a 20m wide strip on each bank adjacent to the specified portions of the inflowing rivers. The ROW doesn't change the underlying ownership of the land (Maori land) but simply provides for access over it. Subsequent acquisitions may well have brought some of this land into public ownership, as at Wharekawa reserve, but this has occurred through other processes.

The Waitahanui River is one of the most important elements of the Taupo trout fishery. It is the third most popular fishing river in the district. Public and angling access to the Waitahanui has been very much in the news for the last year or more. An article in Target Taupo issue 37 in July last year explained the situation around the gate that had been erected on Blake Road where it crossed private land. An earlier article (issue 32, November 1999) gave a detailed explanation of fishing access and rights-of-way (ROWs) in the Taupo fishery generally.

23

209[Note]

[209] A Ministry of Conservation report on *Waitahanui* river access (see adjoining photo from fieldwork visit 7, 2003). For further details see Gibbs (1999; 2001; 2002).

Note

From Gibbs, J. (2001). <u>*Waitahanui* River Access.</u> *Taupō,* New Zealand: Ministry of Conservation . Copyright 2001 by Ministry of Conservation. Printed with permission.

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[208]This appendix *(Appendix 7.2cvii)* depicts case example photo 7 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2cviii   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 8[210]
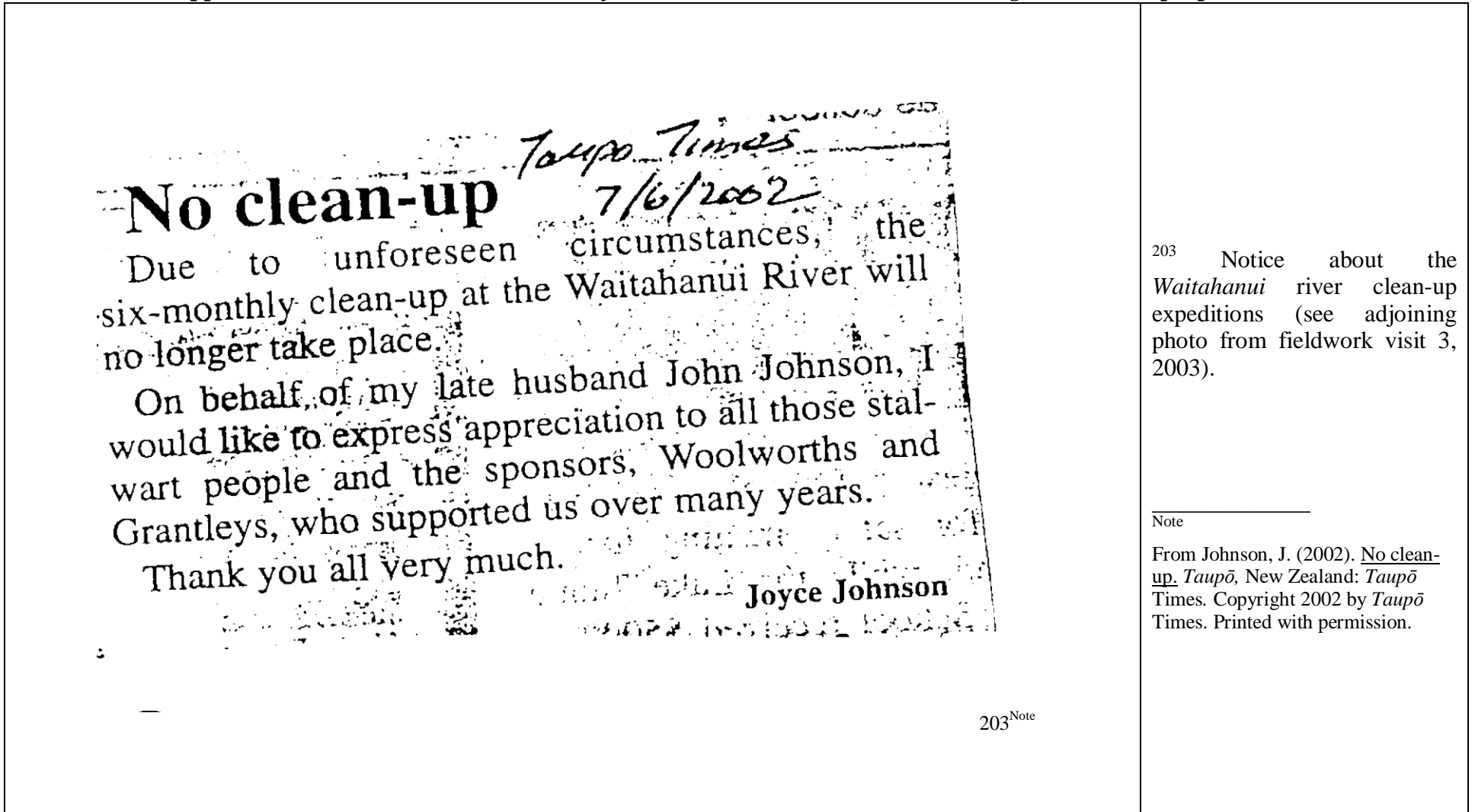

Taupo Times, Thursday April 26 2001

ACCESS STALLED. Checking out the gate is Waitahanui resident Te Awhi Wall. Photo: Sam Ryan.

Fishers denied access to local river pools

by Sue Hawkins

A gate has been erected at Waitahanui, effectively banning road access to fishing pools up the Waitahanui River.

Rumours that a gate was being considered had been circulating for some time and it was finally put in place last Friday.

Enquiries made by the *Taupo Times* have so far been unable to establish exactly why the gate has gone in, or on whose initiative.

People in the area spoken to last week said there were "a lot of different issues' and that controversy over the Blake Road access goes "way back to the 50s".

No one was prepared to accept the role of spokesman and nor did anyone want to be quoted.

However there have been pressures on the area for a number of years.

The official section of Blake Road actually ends a few metres past the current seal but a roadway has been developed over the years.

Long-time residents say it used to be merely a horse track.

Over recent years there has been increasing pressure on the accessway from fishers, trampers, and mountain bikers.

But locals have been more concerned over campervans over-nighting and using the river for ablutions with the attendant risk of giardia.

Trailerloads of rubbish have also been dumped up river.

And there is an even greater fear of fire.

Of even greater concern these days is the proximity of forestry and the fact that there have been two fires in the area which had the potential to threaten the forest.

One resident says the real answer to many of the problems is to develop proper walking tracks within the Queen's Chain to ensure access for anglers.

Access closure 11-5-2001
Taupo Times

I have been fishing the Waitahanui Stream since the 1960s without a problem. Now I — we, the anglers — have a strange problem.

Today (May 3) I discovered that someone had constructed a strong, steel gate across the extension to Blake Road, about 200 metres west of the Pig Pool bridge and erected a notice on it stating: No accesss private property.

The Department of Conservation's maps of the river clearly show a track up the right bank of the river and a roadway up the left bank and describe them as access-ways, pointing out that they cross private property and anglers should treat them with respect.

No problem so far. But now the roadway has been shut off, presumably by the owner of the land. I ask several questions.

1. Who is the owner of the land — a private company? A Maori trust? The Tuwharetoa Maori Trust Board? A family?

2. How will DoC rangers monitor anglers for their catches and licences if they can't drive to the end of the road?

3. Whatever became of the Queen's Chain?

4. How do anglers fish those pools which are accessible safely — or only — from the left bank?

5. What plans do the owners have in respect of the access by motor vehicle that they have now effectively restricted to themselves, and would these plans (if they exist) have the support and endorsement of DoC?

There is no indication on the notice of the name of the authority under which the road has been closed.

Robert Meredith

211[Note]

[211]   Newspaper articles on *Waitahanui* river access (see adjoining photo from fieldwork visit 4).

Note

From articles section. (2001). <u>Selected articles.</u> *Taupō,* New Zealand: *Taupō* Times. Copyright 2001 by *Taupō* Times. Printed with permission.

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[210] This appendix *(Appendix 7.2cviii)* depicts case example photo 8 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2cix Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* – case example photo 9[212]

LAND ACCESS

NZ Herald 6 May 2002

River dispute turns ugly

Anglers say intimidation at a popular fishing spot threatens Taupo's economy.

by Jo-Marie Brown

A long-simmering dispute between anglers and members of a small Maori community living near one of Taupo's best trout fishing spots is becoming violent.

Taupo fishing guide Grant Bayley says he was last week punched in the head and had his $500 fly-fishing rod snapped in two by Maori who own land surrounding the Waitahanui River.

Many anglers have now stopped going to the idyllic river — rated as Taupo's top fishing spot in winter — after experiencing intimidation that they say now threatens the town's economy.

"The whole community relies on fishing — moteliers, retailers, everybody," Mr Bayley said.

"If that river goes because people are too scared to go up there, people will take their money elsewhere."

Department of Conservation spokesman John Gibbs said problems at Waitahanui River have been brewing for more than a year.

Under a 1926 act of Parliament, anglers were entitled to foot access along a 20m strip either side of the river bank. This "right of way" differs from an agreement known as the Queen's Chain used elsewhere in New Zealand in that local Maori retain title to the land.

A road was built in the 1950s so vehicles could reach the upper stretch of the river, but this was outside the 20m strip and anglers initially paid a fee to use it.

Mr Gibbs said that payment stopped years ago but anglers continued to use the road by the "grace and favour" of the landowners.

But in April 2000, a gate was erected and trouble began.

"Naturally enough there was a lot of concern when people lost what they had come to regard as their right of access up Blake Rd, but it never was a right," Mr Gibbs said.

Instead, anglers must now walk along the 20m strip either side of the river or stay within a DoC reserve on the left bank of the lower river.

Fishing guides say this would be fine but claim they are now being threatened to keep off that land, too.

ANGRY: Fishing guide Grant Bayley says he was punched in the head. PICTURE / RICHARD ROBINSON

Car windows have been smashed, "keep off" messages scratched into paintwork and anglers have been verbally — and now physically — threatened.

Taupo police are investigating the attack on Mr Bayley and DoC is seeking a meeting with landowners to find out what their concerns are.

"We certainly want to see the issues clarified and resolved so that anglers can continue to lawfully fish there," Mr Gibbs said.

A Waitahanui resident, who wished to remain anonymous, yesterday denied that residents were ordering anglers off the DoC reserve or the 20m right of way.

"DoC has got to define where those boundaries are. Some of the tracks wander away from the river.

"Instead of being 20m you're about 40m away from the river and these are the tracks that these fellas are telling people to get off."

Around 50 Waitahanui residents supported the decision to block access over the private land.

"We've lived here all our lives and let them use our land at no charge [but] now the younger generation are saying 'to hell with this'.

"Are these people going to come around the table and offer us something for using the land?"

DoC said it also plans to contact the Tuwharetoa Maori Trust Board, which receives about $1 million annually from the Crown in return for fishing and boating access on Lake Taupo and certain rivers, including the Waitahanui.

Trust secretary Rakeipoho Taiaroa said Ngati Tuwharetoa had been cooperative in allowing public access but landowners still had rights.

"We certainly do not condone violence at all but if a person has rights in terms of being an owner of a piece of land we're not going to step in . . .

"It's not our place to poke our nose in."

213[Note]

[213] This case study example relates to an attack on a local fishing guide (see adjoining news paper item from fieldwork visit 5, 2003).

Note

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[212] This appendix *(Appendix 7.2cix)* depicts case example photo 9 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.2cx   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 10[214]

[215] Fishing article on access problems (see adjoining photo from fieldwork visit 4, 2003).

Note

From Simmons, A. (2002). Famous waters closed to anglers. New Zealand: Fishnhunt.co.nz. Copyright 2002 by Fishnhunt.co.nz. Printed with permission.

215[Note]

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[214] This appendix *(Appendix 7.2cx)* depicts case example photo 10 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2cxi   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 11[216]

Angry Maori close river access road

By LAURILEE McMICHAEL

30 April 1001 Rotorua Daily Post

Taupo Maori landowners angered by the amount of rubbish being dumped on their property by campers and general disrespect shown their land have blocked vehicle access to it.

However, angles can still cross the land on foot to reach the Waitahanui River as long as they stay within 20 metres of the river.

Owners of the Tauhara Middle 14 Block stopped vehicle access across their land to the Waitahanui River off Blake Road on Friday by putting up a gate and a "private property" sign.

Ngatoru Wall, one of the descendants of Pakira, the original owner of the Tauhara Middle block, said although she could not speak for the whanau, and only for herself, the track had never been intended for public access.

It was originally a walking track to the
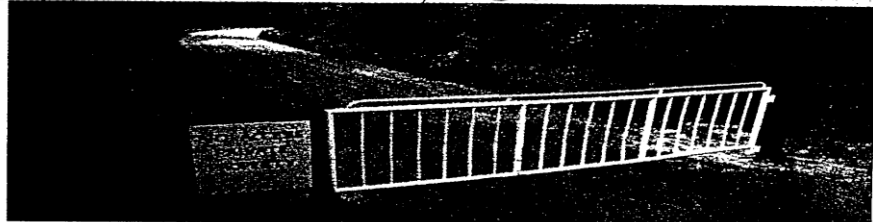
■The gate which blocks the public from vehicle access to the Waitahanui River near Taupo off Blake Road. PHOTO: JOHN BORREN 27041j2

Opango Bush that the old people of the area used.

When vehicles started using it people assumed it was public land.

However, it always remained private property, she said.

Whanau were dismayed by the number of people going up the track, dumping rubbish, camping, using it for commercial activities and not showing respect for the land.

"We have lived there all around the river.

"It's everything to us...It's our recreation, it's our kai, it's our cleansing. It's just disrespect and we had just had enough.

"We are not stopping access up the river.

"We are just stopping access to that property ... we had to start getting our bums into gear and start taking care of what's ours."

Department of Conservation Taupo fishery area manager John Gibbs said public land ended at the new gate and there was no right of public access beyond the public road to the Maori-owned property.

He said that a 1926 agreement between the Crown and Ngati Tuwharetoa gave access for licensed anglers to cross the banks and beds of most of the rivers in the district within a 20 metre strip.

The gate did not affect anglers 20 metre right of way on foot, he said.

"At the end of the day its the right and prerogative of the owners to do what they want in terms of that road. People have become used to using it and the informal use has been around for so long that people have come to take it for granted."

The Lake Taupo Forest Trust, which owns the land behind the Tauhara Middle 14 block had also been thinking of closing the road access up the river, said trust forester Geoff Thorp.

He said the trust, which has its boundary several hundred metres further up the river from the new gate, had been concerned about the fire risk.

217[Note]

[217]   Newspaper article on access problems (see adjoining photo from fieldwork visit 4, 2003).

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[216] This appendix *(Appendix 7.2cxi)* depicts case example photo 11 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2cxii   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 12[218]

Regarding Gate erected Blake Rd 20.4.2001, to stop public access / Circulated at Waitahanui late April 2001 (Author unknown)

********DID YOU KNOW********

➤ THE BACK OF BLAKE ROAD IS **MAORI LAND**?

➤ RUB**BISH**'S BEING DUMPED AT THE BACK OF BLAKE ROAD?

➤ THE WAITAHANUI RIVER WAS TAKEN UNDER A 1926 GOVERNMENT ACT?

➤ NGATI TUTEMOHUTA NEVER SIGNED THE ACT OR AGREED TO ITS **PRINC**IPLES?

➤ WEDDINGS, CAMPING, TRAMPING IS TAKING PLACE UP THE RIVER?

➤ THE BACK OF BLAKE ROAD WAS NEVER OPEN TO THE GENERAL PUBLIC?

➤ THE GATE IS THE BOMB?

➤ OUR URUPA IS BECOMING A PUBLIC WALKWAY?

➤ THE MOUTH OF THE WAITAHANUI RIVER FLOWED OUT AT WHAREWAKA?

➤ AWAR**OA WA**S PART OF THE ORIGINAL WAITAHANUI RIVER BED?

➤ THE PUBLIC ARE TAKING KOURA, INANGA, WAIKIRIHI, PUMICE?

➤ ONLY ANGLERS WHO HOLD A CURRENT FISHING LICENSE ARE ALLOWED TO USE THE WALKING TRACKS?

➤ TROUT WOULDN'T HAVE SURVIVED IN TAUPO WITHOUT THE LAKE AND RIVERS?

➤ TAUHARA MAUNGA IS MAORI LAND?

➤ WE NEVER GAVE UP OUR TINO RANGATIRATANGA?

➤ IT'S COMING!

[219] A river notice which was circulated locally during the fieldwork period (see adjoining photo from fieldwork visit 4, 2003).

219

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[218] This appendix *(Appendix 7.2cxii)* depicts case example photo 12 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2cxiii   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 13[220]

Right of way *Taupo Times 6/6/2002*

An article by Sue Hawkins (*Taupo Tim.* Thursday May 30, covering the rights of way the Waitahanui River says that "the area f general public access is the Wharekawa scen reserve, which runs alongside the true left bank southern side of the Waitahanui River."

"The general public are entitled to free fo access throughout the Wharekawa scenic reserve from SHI bridge, up to Butler's Bend — about one third up Blake Road."

I went fishing there (on foot) on June 6 and was confronted by a signpost on Blake Road about 200 metres short of the Pig Pool reading: "Private Property. Trespassers Will Be Prosecuted."

The signpost was well within 20 metres of the river bank. So is it private property or a scenic reserve open to the general public?

It can't be both.

I'd never heard of the Wharekawa reserve before, so perhaps you could publish a map showing it.

Robert Meredith

Footnote: We'd be glad to if we can ever get hold of one! — Editor

No clean-up *Taupo Times 7/6/2002*

Due to unforeseen circumstances, the six-monthly clean-up at the Waitahanui River will no longer take place.

On behalf of my late husband John Johnson, I would like to express appreciation to all those stalwart people and the sponsors, Woolworths and Grantleys, who supported us over many years.

Thank you all very much.

Joyce Johnson

Waitahanui River access row... *Taupo Times 7/6/2002*

Call for board to step in

A Waitahanui man is asking the Tuwharetoa Trust Board to step in over access at the Waitahanui River "so all New Zealanders and their visitors can once again enjoy this special place."

Retired lawyer Wah McLean says he is sure if landowners would allow walking and road access to continue as in the past, the great majority of people would respect the beauty and serenity of the place.

Even though the trust board is not directly a landowner or beneficiary at Waitahanui, Mr McLean says it does own the bed of the river.

In 1992 the Crown and trust board signed a deed vesting in the board the bed of Lake Taupo and the beds of the rivers or streams flowing into the lake.

Mr McLean says the deed includes the bed of the Waitahanui and the board's beneficiaries have since ratified the signing.

The deed also says that the people of New Zealand shall continue to have freedom of entry to and access upon Taupo Waters, including their beds, for recreational use and enjoyment, research and associated activities.

"The management board referred to in the deed is entitled to impose restrictions but I understand has not done so in respect of access to the Waitahanui."

Mr McLean says he appreciates that the roadway and paths up the river are not entirely within the one chain right of way strip created by the 1926 legislation or the Wharekawa Reserve.

"Surely, access must mean reasonable access?"

Mr McLean says he is aware parts of the roadway and track are outside the legal access but suggests the Department of Conservation should not have to spend large amounts of money confining them to the right of way and the scenic reserve.

"As far as I can observe, the land on which the paths and roadway are located is not used for any other purpose and there is no inconvenience to the land owners,"

Mr McLean says that, although he has lived at Waitahanui for only two years, he has been holiday there for many more.

He says, like many other residents and visitors, he has become very concerned about the activities of what appears to be a minority group attempting to stop fishermen and others from using the river.

221[Note]

[221]   Local newspaper articles about the *Waitahanui* river (see adjoining photo from fieldwork visit 3, 2003).

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[220]   This appendix *(Appendix 7.2cxiii)* depicts case example photo 13 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.2cxiv   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 14[222]

Taupo Times   7 MAY 2002

Fishing access

I would like to make a comment on the article about the fisherman punched at Waitahanui.

Had this been an isolated occurrence, then perhaps it could have been an understandable, random conflict between individuals.

As it stands as part of a campaign to deny access, it is unforgivable.

Access to the fishery and the lake, was granted and guaranteed by a number of agreements between the Tuwharetoa tribe and the Crown.

The public by and large meets the conditions laid down by these two bodies, for access, and yet access is being denied through the actions of these people.

There seems to be an orchestrated programme to harass, scare, steal from and assault the public, with an intention of denying access to the fishery and the lake.

The actions of these people do not build on the ideal, of a partnership between Tuwharetoa and the Crown.

Every assault, abuse, theft from cars from local tourist places, every post and rail fence set up, will achieve its aim of denying access.

These places have become or will become no go areas.

Only those who do not respect any rules (of access) will visit these places.

With the public too afraid to venture there, "they" will have a free hand.

Access to the lake and the fishery is the key to the prosperity and well being of all who live around the lake.

Do not let a few violent people lead you to believe they can build a better way through violence.

These thugs do not care for rules, culture or the environment, through intimidation is their joy.

Once they have finished with the enemy they will then start on their friends.

I would call on all people to stand together as equal partners and insist in good faith that the violence stop and access for all be upheld.

This can only build a strong, diverse and caring community which will benefit everyone.

The alternative is too dark to comprehend.

G. Allen

Rubbish concerns

It is hoped members of the public will in future note car numbers and/or descriptions of people dumping rubbish in the riverside area at Waitahanui. Concerns about this problem were expressed at a meeting of the Lakes and Waterways Action Group with the hope that the public will help and be prepared to advise Taupo District Council.

Litterers are liable to an instant fine of $100.

[223] Newspaper article on fishing access (see adjoining photo from fieldwork visit 3, 2003).

Note

From Allen, G. (2002). Fishing access. *Taupō,* New Zealand: *Taupō* Times. Copyright 2002 by *Taupō* Times. Printed with permission.

223[Note]

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[222] This appendix *(Appendix 7.2cxiv)* depicts case example photo 14 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

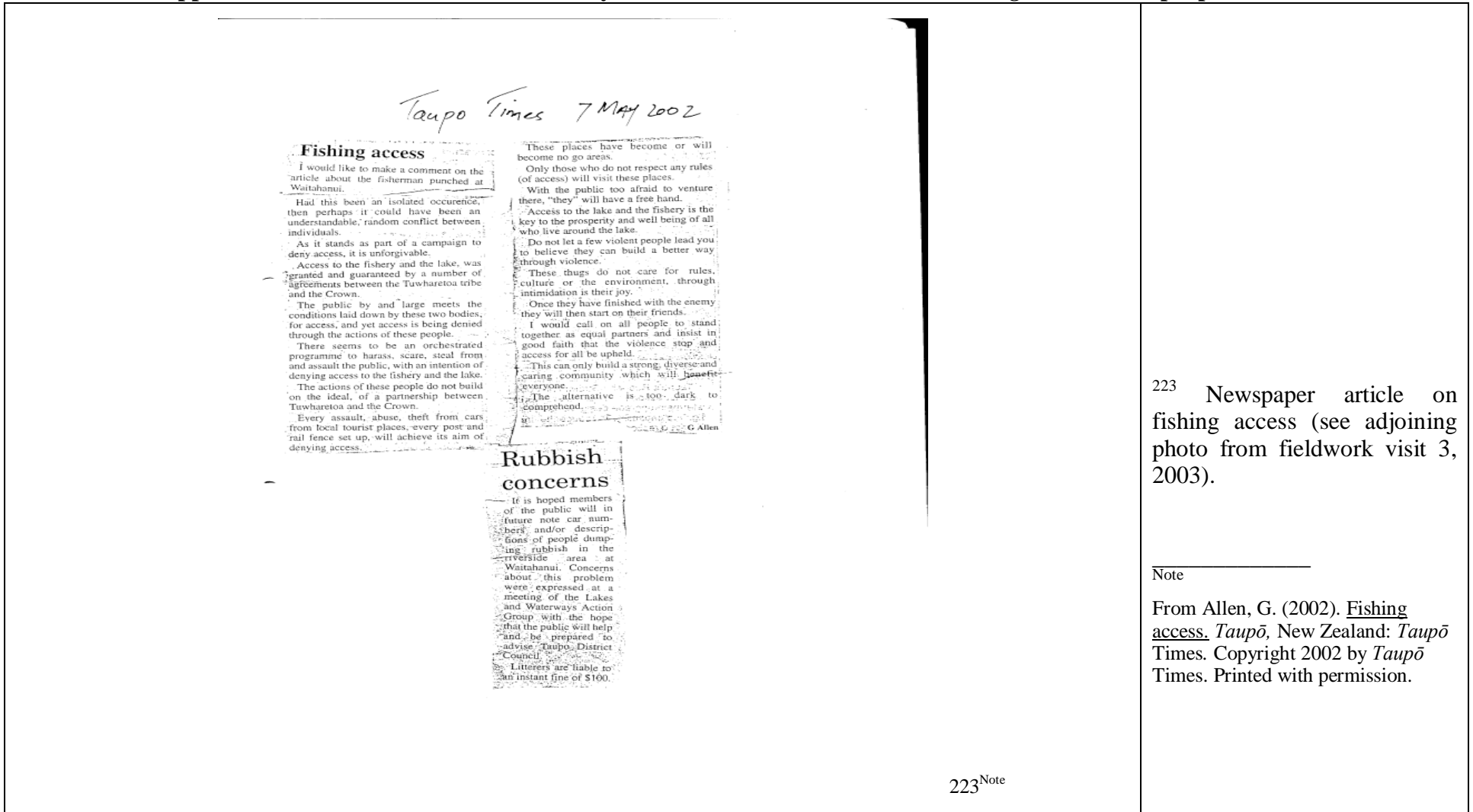**Appendix 7.2cxv   Diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* - case example photo 15[224]**

Wharekawa reserve

In your article in the *Taupo Times* (Thursday May 3 2002), the Department of Conservation spokesperson, John Gibbs, makes continued reference to its Crown Reserve on the banks of the Waitahanui River as the Wharekawa Reserve.

Can Mr Gibbs advise us please from where within the department's circle did the name "Wharekawa" originate.

In particular who gave the department the right to use and designate its reserve after one of our tupuna and then advocate the use of police intervention and 'law' enforcement when many of our tupuna died fighting for what was their's in the first place anyway – for this so called "freedom of access" everyone keeps on harping about!

Harvey Karaitiana

225[Note]

[225]   Another newspaper clipping (see adjoining photo from fieldwork visit 3, 2003).

Note

From *Karaitiana,* H. (2002). <u>Wharekawa reserve. *Taupō,*</u> New Zealand: *Taupō* Times. Copyright 2002 by *Taupō* Times. Printed with permission.

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[224] This appendix *(Appendix 7.2cxiv)* depicts case example photo 15 on diverse/multi-reflexivity and *Waitahanui* local river *kaitiakitanga* in the study *(Chapter 7).*

APPENDICES 7.3a,b,c   PHOTOGRAPHS OF THE RESEARCH PARTICIPANT METHOD IN THE 2003 *OPARAU* RIVER COMMUNITY CASE STUDY FIELDWORK - BACKGROUND INFORMATION[226]
APPENDICES 7.3ai,ii,iii   *OPARAU* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS[227]

228

Appendix 7.3ai   *Oparau* local river *kaitiakitanga* - case example photo 1

[228] A fishing platform bay on the *Oparau* river (see adjoining photo from fieldwork visit 1, 2003).

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[226] The following appendices *(Appendices 7.3a,b,c)* provide background information on photographs, which were taken in the research participant method of the 2003 *Oparau* river community case study fieldwork.
[227] The following appendices provide case example photos on *Oparau* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.3aii   *Oparau* **local river** *kaitiakitanga* **- case example photo 2**[229]

[230] Agricultural farming river use on the *Oparau* river (see adjoining photo from fieldwork visit 3, 2003).

230

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[229] This appendix *(Appendix 7.3aii)* depicts case study photo 2 on *Oparau* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.3aiii *Oparau* local river *kaitiakitanga* - case example photo 3[231]

[232] Cattle on the river banks of the *Oparau* river (see adjoining photo from fieldwork visit 3, 2003).

232

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[231] This appendix *(Appendix 7.3aiii)* depicts case example photo 3 on *Oparau* local river *kaitiakitanga* in the study *(Chapter 7)*.

APPENDICES 7.3bi,ii   OFFICIAL DISCOURSE AND *OPARAU* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS [233]

given to the mountain after Kahupeka stopped there to anoint herself with oil containing crushed rangiora leaves, a Maori treatment for scratches and sores.

Maoris prohibited European access to Pirongia until the mid 1800's. In 1900, Mount Pirongia was proclaimed a State Forest and the total area designated a Forest Park, for public use, in 1971.

Not only the Oparau River, but also its tributaries of the Okupata, Mangapapa Omanawa and the Mangakotukutuku Streams also spring from the slopes of Pirongia

When Oparau people look at Mt.Pirongia in the evening and see she wears a cap of cloud about her peaks they can expect fine weather the next day.

MAORI HISTORY

There is a sad lack of information about the Maori history of the district, but a few the facts have been found.

The early Maori settlers gave names to many places, streams and landmarks in the area. It is very interesting to see on an old map of 1854, a part of which is shown here, that Oparau was only the name of the river – the name of the settlement was 'Opae'. This name must have been forgotten while the district was closed from 1863 to 1881.

The meaning of some of the place names can be found in A. A. Reed's "Dictionary of Maori Place Names".

Oparau: the generally accepted meaning is "The place of many pas." However another interesting meaning was told to C. Ward by an old Maori who said that a 'pa' was also the name or an eel trap made of posts driven into a river and

interlaced with branches to form a weir or screen to direct eels into the eel pots. This is confirmed by A.W Reed's "Encyclopedia of Maori Life".

It is probable that the river was ideal for eel fishing and so could have had many eel traps (or 'pas') along its banks.

Opae: 'O' the place of, 'pae' perch, resting place or ridge.

Tirtirimatangi: 'tiritiri' a twig indicating. position of a kumara tuber, 'matangi' the warm north-east breeze.

Moerangi: 'moe' to sleep, 'rangi' sky... 'sleepy sky'.

Mangapapa: 'manga' stream, 'papa' flat country.

After the departure of Te Rauparaha and the Ngati-Toa tribe the district was covered by village sites apart from the shape of earthworks on some prominent hill tops. Checking with various people has produced a short list, some with names.

Ngatokakairiri: the best known pa ... which was on the island known as Morgan's Island, off White Beach.

Whakarununga: was on a steep ridge on MacAlister's farm and overlooking the Kawaroa Stream.

Pirinoa: was on the ridge overlooking the junction of the Okupata and Pirongia West Roads. This was used by King Tawhiao.

Otururu: on a headland near White Beach.

Mataimarino: about a mile up the Pirongia West Road overlooking the Oparau River.

7

235[Note]

[234] **Appendix 7.3bi   Official discourse and *Oparau* local river *kaitiakitanga* - case example photo 1**

[235] Official discourse on *Māori* history of the *Oparau* district.

Note

From *Māori* history section. (2003). *Māori* history. *Otorohanga*, New Zealand: *Otorohanga* Centennial Reunion Committee. Copyright 2003 by *Otorohanga* Centennial Reunion Committee. Printed with permission.

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[233] The following appendices present further details on official discourse and *Oparau* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.3bii   Official discourse and *Oparau* local river *kaitiakitanga* - case example photo 2[236]

Pākehā owned land

[237]   *Pākehā* owned land surrounds the *Oparau* river (see adjoining photo from fieldwork visit 3).

237

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[236] This appendix *(Appendix 7.3bii)* depicts case example photo 2 on official discourse and *Oparau* local river *kaitiakitanga* in the study *(Chapter 7).*

APPENDICES 7.3ci,ii,ii   DIVERSE/MULTI-REFLEXIVITY AND *OPARAU* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS[238]

Appendix 7.3ci   Diverse/multi-reflexivity and *Oparau* local river *kaitiakitanga* - case example photo 1

[239] Fenced sections in the *Oparau* river surrounds (see adjoining photo from fieldwork visit 2, 2003).

239

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[238] This appendix *(Appendix 7.3ci)* depicts case example photo 1 on diverse/multi-reflexivity and *Oparau* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.3cii   Diverse/multi-reflexivity and *Oparau* local river *kaitiakitanga*[240]
Case example photo 2[241]

242

[242] Cattle on the river banks of the *Oparau* river (see adjoining photo from fieldwork visit 2, 2003).

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[240] This appendix *(Appendix 7.3cii)* provides further details of diverse/multi-reflexivity and *Oparau* local river *kaitiakitanga* in the study *(Chapter 7).*
[241] *Appendix 7.3cii* depicts case example photo 2.

Appendix 7.3ciii   Diverse/multi-reflexivity and *Oparau* local river *kaitiakitanga* - case example photo 3[243]

[244] Plant and tree vegetation on the banks of the *Oparau* river (see adjoining photo from fieldwork visit 3, 2003).

244

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[243] This appendix *(Appendix 7.3ciii)* depicts case study photo 3 on diverse/multi-reflexivity and *Oparau* local river *kaitiakitanga* in the study *(Chapter 7)*.

APPENDICES 7.4a,b,c   PHOTOGRAPHS OF THE RESEARCH PARTICIPANT METHOD IN THE 2003 *HARATAUNGA* RIVER COMMUNITY CASE STUDY FIELDWORK - BACKGROUND INFORMATION[245]
Appendices 7.4ai,ii,iii,iv   *HARATAUNGA* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS[246]

settlement location

247

[247] Settlement location of the *Harataunga* river community case study (see adjoining photo from fieldwork visit 5, 2003).

Appendix   7.4ai
***Harataunga* local   river *kaitiakitanga*   -   case example photo 1**

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[245] The following appendices *(Appendices 7.4a,b,c)* provide background information on the photographs, which were taken in the research participant method of the 2003 *Harataunga* river community case study fieldwork.

[246] The following appendices *(Appendices 7.4ai,ii,iii,iv)* provide case example photos on *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.4aii *Harataunga* local river *kaitiakitanga* - case example photo 2[248]

aquacultural development

249

[249] Aqua-cultural development in the *Harataunga* river community case study locale (see adjoining photo, from fieldwork visit 5).

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[248] This appendix *(Appendix 7.4aii)* depicts case study photo 2 on *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.4aiii   *Harataunga* local river *kaitiakitanga* - case example photo 3[250]

[251]   Bridge on the *Harataunga* river (see adjoining photo from fieldwork visit 1, 2003).

251

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[250] This appendix *(Appendix 7.4aiii)* depicts case example photo 3 on *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.4aiv   *Harataunga* local river *kaitiakitanga* - case example photo 4[252]

253   Trees and plant vegetation on the banks of the *Harataunga* river (see adjoining photo from fieldwork visit 5, 2003).

253

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[252] This appendix *(Appendix 7.4aiv)* depicts case example photo 4 on *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7).*

APPENDIX 7.4bi   OFFICIAL DISCOURSE AND *HARATAUNGA* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS[254]

the other (see Walk 4).

This area was a major goldfield, yielding ore from the late 1860s until 1916 when activity ceased. Its peak was during the 1870s and 1880s, with over 300 miners living on the hill - mostly under canvas. The area is littered with old mine shafts, adits and ventilation holes, making it very dangerous to wander off into the bush. If you look behind the bushes up against the hillface in the carpark, you will see a small, excavated cavern that was the coolstore of the Tokatea Hotel, which was built up against the hillside.

To the left of the carpark is the entry to the walk.

KENNEDY BAY
(HARATAUNGA):
On your descent you will see Kennedy Bay sprawling out in front of you. There is a pretty stream when you come down onto the flats, which is also meandering its way down to Kennedy Bay. Your first sign that you are there is when you come across Moana Cres on the right.

There is not much to be here apart from the beach, which is not easy to find. Continue along the main road and just before the bridge are a couple of lanes to the right. Either of these narrow one-lane tracks will get you to the beach.

On the way you will see the carved Marae complex on the right (guided tours through this meeting house can be arranged for groups - contact Moana Harrison, phone 07 866 7919) and over the one-lane bridge are the tidal flats and the island to the right. The local school with its beautiful panelling at the front is also on your right. The lovely small Anglican Church is tucked away on your left, not much further on. Built in 1901 by the local Maori, it is sited so that the pretty view across the estuary can be seen. At this end of the bay there are a couple of Pa sites, one on either side of the road near the last one-lane bridge. The road to Tua-te-awa starts a little further on.

ABOUT KENNEDY BAY:
Kennedy Bay is a horseshoe-shaped harbour, with a sandy beach, situated on fertile river flats and encircled by high bush-clad hills broken only by the harbour entrance. It affords good anchorage as it is sheltered and has a deep entrance.

There is an island that sits closely off the northern end, however it is not obvious that it is an island. It was once a peninsula, but in 1960 a tsunami (tidal wave) washed out a channel, creating the island.

At the northern point of the harbour is Tokangawha, meaning 'rock burst open', so named following a massive rockfall hundreds of years ago, when gigantic rocks crashed into the sea. Also known as 'tumbledown rocks', it is now bush-covered but enormous blocks can still be seen.

At the southern end of the beach the small hillock is an ancient pa site and in the background is the impressive looking peak, Konake.

The area has seen various industries and enterprises throughout its history. Early traders called into the bay for flax fibre and kauri timber. Logging started in about 1840 and a large mill, one of the first three powered by steam in New Zealand, was built in 1862.

Gold was discovered here in 1852 and officially declared a 'goldfield' in 1868, although no major reefs were found and little was taken out. Later in the century a gold stamper battery was set up to process ore from the claim on Tokatea Hill, but it only operated until 1903. The area also had a shipbuilding yard and whaling station on the northern side, with the shipyard evidently building several large vessels.

As European settlements grew in the Hauraki region, Kennedy Bay became an important food-producing area. The local Maori grew a wide variety of produce, much of which they shipped to Auckland.

During the early part of the 20th century, dairy farming, fishing and crayfishing were important, but now mussel aquaculture and

11

cattle and sheep farming are the main industries, along with fishing.

The bay is named Harataunga meaning: 'the great bonding of people'. This was because it was originally Ngati Huarere territory but later gifted to the Ngati Tamatera brothers, Whareriro and Whatihua in return for a favour. Almost two centuries later, the land was again gifted, this time by by Paora te Putu, to a section of another tribe, the Ngati Porou from the East Coast region much further south, who settled here about 1836. There are 17 recorded pa sites in the area, several of which can be seen from the road.

The bay got its present name from Captain John Kennedy, a sailor and trader who married a Maori woman and settled here. He bought land here in 1839 - the first European to do so. He was eventually robbed and killed by his crew, while on a voyage to the Bay of Islands in the far north.

Kennedy Bay was not its first European name. It was originally named Trial Bay after an Australian ship Trial that called here (along with another ship-the Brother) for flax fibre in 1815. The events surrounding this visit are an infamous chapter in the early history of New Zealand. For some reason the two ships were attacked by a large army of local Maori and, following a pitched battle on the two ships and on the shore, over 200 Maori and 5 Europeans lay dead. The Europeans, having the advantage of musket and canon, were able to escape.

It is also thought that the Australian ship Venus may not have been so lucky, meeting its fate in the bay. Seized by a mutinous convict crew off the coast of Australia, it was sailed to New Zealand, where it was occasionally sighted in the Northland/Hauraki region. It was eventually reported that the ship was attacked and burned here in the bay by the local Maori. This seems to have been verified in 1957, when wreckage was located in the mudflats, the measurements matched those of the Venus. It is also claimed that the Venus brought the first two European women to New Zealand.

12

TUA-TE-AWA 'THE PLACE BEYOND THE RIVER':
Tua-te-awa is only 3kms away, up over the hills through regenerating bush that closes in the road.

The first place you come to is a one-lane bridge and on the right is a track that takes you to a small rocky bay where there is a boat ramp and toilet. Continue on up the hill where the views across to Great Mercury Island and the Kuaotunu Peninsula are excellent. Rabarts Road appears on the right after about a kilometre and, although it has no exit, you can access the shore a short way down.

The main road continues and takes you up and along the coastal cliffs where you pass the old Bell Homestead, once a well-tended and well-visited sub-tropical garden. Turning inland, you climb through the main settlement area where there are several houses nestled into the hills or hidden in the bush.

Tua-te-awa is a tapu (sacred) place because of the ancestral remains that lie in the many small grottos in the area from the many battles fought inland over 400 years ago.

This small settlement, once densely populated by Maori, was heavily logged for kauri, and later on became a small dairy-farming area, the cream being taken by boat to Whitianga.

LITTLE BAY:
The popular holiday beach, Little Bay is about 6kms away. The road takes you through the lovely Waikawau Scenic Reserve where small groves of young kauri trees can be seen. Along the way there are wonderful views of the ranges and, further on, Waikawau Beach. The turnoff to Little Bay appears out of the blue in a small road cutting.

There are lots of holiday cottages tucked into the bush-clad hills surrounding this exquisitely beautiful bay. It is only a short trip down the hill but is a 'must see'.

The beach of pinkey-white sand, lined by large old pohutukawa trees, is ideal for swimming, picnicking and rock-fishing. Old pa

256[Note]

[255] **Appendix 7.4bi Official discourse and *Harataunga* local river *kaitiakitanga* - case example photo 1**

[256] Official discourse of the *Harataunga* local river community case study (see adjoining photo from fieldwork visit 1, 2003).

Note
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From Inch, R. (2002). The Inch by Inch Guide to Coromandel Town and North. Coromandel, New Zealand. Copyright 2002 by Randall Inch and Associates. Printed with permission.

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[254] This appendix *(Appendix 7.4bi)* depicts case example photo 1 on official discourse and *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7).*

APPENDICES 7.4ci,ii,iii,iv   DIVERSE MULTI-REFLEXIVITY AND *HARATAUNGA* LOCAL RIVER *KAITIAKITANGA* - FURTHER DETAILS[257]

Appendix 7.4ci   Diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* - case example photo 1

[258] Trees and plant vegetation on the banks of the *Harataunga* river (see adjoining photo from fieldwork visit 2, 2003).

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[257] The following appendices *(Appendices 7.4ci,ii,iii,iv,v)* provide further details of diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.4cii   Diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* - case example photo 2[259]

[260] Cattle in the *Harataunga* river (see adjoining photo from fieldwork visit 4, 2003).

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[259] This appendix *(Appendix 7.4cii)* depicts case example photo 2 of diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.4ciii   Diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga*[261]

[262] Case example photo 3

[263] Graffiti on the bridge above the *Harataunga* river here (see adjoining photo from fieldwork visit 1, 2003).

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[261] This appendix *(Appendix 7.4ciii)* depicts case example photo 3 on diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7)*.

Appendix 7.4civ   Diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* – case example photo 4[264]

[265]   Beach access blocked (see adjoining photo from fieldwork visit 2, 2003).

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[264] This appendix *(Appendix 7.4civ)* depicts case example photo 4 of diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7).*

Appendix 7.4cv   Diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* - case example photo 5[266]

[267]   Gate blocking beach access (see adjoining photo from fieldwork visit 2, 2003).

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[266] This appendix *(Appendix 7.4cv)* depicts case example photo 5 of diverse multi-reflexivity and *Harataunga* local river *kaitiakitanga* in the study *(Chapter 7).*

APPENDICES 8.1a,b,c,d,e,f,g,h
RESEARCH RECOMMENDATIONS FOR APPLYING SYNERGY
Appendix 8.1a   Research recommendations on the application of synergy in research area a: Basic theoretical attributes of a *Māori* standpoint on modernity[268]

Basic attribute 1: Research recommendations on applying synergy through *Māori* theoretical conceptualisations of modernity and change
• Applying *Māori* modernity and change concepts of *te ao Māori, kaitiakitanga, kaitiaki, ngā tikanga tūpato* and the *Māori* people-environment relationship in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006f; 2006g; 2006h). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).
Basic attribute 2: Research recommendations on applying synergy through *Māori* theoretical contextual analyses of modernity and change
• Applying *Māori* modernity and change contextual analyses of *te ao Māori, kaitiakitanga, kaitiaki, ngā tikanga tūpato* and the *Māori* people-environment relationship in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006f; 2006g; 2006h). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[268] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1).*

Appendix 8.1a   continued

Basic attribute 3: Research recommendations on applying synergy through
Māori theoretical critiquing analyses of modernity and
change

- Applying *Māori* modernity and change critiquing analyses of *te ao Māori, kaitiakitanga, kaitiaki, ngā tikanga tupato* and the *Māori* people-environment relationship in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

  - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006f; 2006g; 2006h).

  - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

Appendix 8.1b   Research recommendations on the application of synergy in research area b: Basic theoretical attributes of *Māori* And/Also nuanced problem solving[269]

Basic attribute 1: Research recommendations on applying synergy through *Māori* nuanced problem solving on the theoretical development and application of the And/Also and And/Or stances
• Applying *Māori* nuanced problem solving on the theoretical development and application of the And/Also and And/Or stances in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006n; 2006o). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).
Basic attribute 2: Research recommendations on applying synergy through *Māori* nuanced problem solving on the theoretical development and application of the subtleties of nuanced reality
• Applying *Māori* nuanced problem solving on the theoretical development and application of the subtleties of nuanced reality in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006n; 2006o). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[269] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1).*

Appendix 8.1b   continued

Basic attribute 3: Research recommendations on applying synergy through *Māori* nuanced problem solving on the theory-methodological development and application of cultural loss and survival

- Applying *Māori* nuanced problem solving on the theoretical development and application of cultural loss and survival in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.
  - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006n; 2006o).
  - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

Appendix 8.1c   Research recommendations on the application of synergy in research area c: Basic methodological attributes of *Māori* And/Also nuanced problem solving[270]

Basic attribute 1: Research recommendations on applying synergy through *Māori* nuanced problem solving on the theory-methodological development and application of the And/Also and And/Or stances
• Applying *Māori* nuanced problem solving on the theory-methodological development and application of the And/Also and And/Or stances in order in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.   - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006n; 2006o).   - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).
Basic attribute 2: Research recommendations on applying synergy through *Māori* nuanced problem solving on the theory-methodological development and application of the subtleties of nuanced reality
• Applying *Māori* nuanced problem solving on the theory-methodological development and application of the subtleties of nuanced reality in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.   - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006n; 2006o).   - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[270] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1).*

Appendix 8.1c   continued

Basic attribute 3: Research recommendations on applying synergy through *Māori* nuanced problem solving on the theory-methodological development and application of cultural loss and survival
• Applying *Māori* nuanced problem solving on the theory-methodological development and application of cultural loss and survival in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006n; 2006o). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

Appendix 8.1d   Research recommendations on the application of synergy in research area d: Basic attributes of nuanced reality [271]

Basic attribute 1: Research recommendations on applying synergy through *pro-Māori* nuanced reality theorising on the *Māori* reflexive self
• Applying pro-*Māori* nuanced reality theorising on the *Māori* reflexive self in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006u; 2006v; 2006w). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).
Basic attribute 2: Research recommendations on applying synergy through *pro-Māori* nuanced reality theorising on the contemporary change process of reflexive modernisation
• Applying pro-*Māori* nuanced reality theorising on the contemporary change process of reflexive modernisation in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006x; 2006y). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).
Basic attribute 3: Research recommendations on applying synergy through *pro-Māori* nuanced reality theorising on the contemporary change phenomenon of risk
• Applying pro-*Māori* nuanced reality theorising on the contemporary change phenomenon of risk in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management. - applications already undertaken in foreshore and seabed *kaitikaitanga* for potential application in High Court proceedings on territorial customary rights under the Foreshore and Seabed Act 2004 (For example, Simon, 2006a; 2006x; 2006y). - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[271] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1).*

Appendix 8.1e   Research recommendations on the application of synergy in research area e: Theory-empirical categories of the meso modernity value continuum/general [272]

Theory-empirical category 1: Research recommendations on applying synergy through theory-empirical research on world (sustainability) and national/*Aotearoa (Resource Management Act 1991)* environmental governance and change/general

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the growth pole of the *Māori* and western scientific conservation and use value continuum underpinning sustainability and the *Resource Management Act 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the conservation pole of the *Māori* and western scientific conservation and use value continuum underpinning sustainability and the *Resource Management Act 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the growth versus conservation value exemplar pole of the *Māori* and western scientific conservation and use value continuum underpinning sustainability and the *Resource Management Act 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the conservation versus growth value exemplar of the *Māori* and western scientific conservation and use value continuum underpinning sustainability and the *Resource Management Act 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.
  - applications already undertaken in lake shore, carbon marketing, land disposal and waste water management *kaitikaitanga* for potential application in the advocation of sustainability under the *Resource Management Act 1991* (For example, King et al., 2006; and Simon, 2007a; 2007b; 2007c; 2006).
  - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[272] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1).*

Appendix 8.1f   Research recommendations on the application of synergy in research area f: Theory-empirical categories of the meso modernity value continuum/specific[273]

Theory-empirical category 2: Research recommendations on applying synergy through theory-empirical research on world (environmental monitoring) and national/*Aotearoa* (environmental performance indicator development) environmental governance and change/specific

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the growth pole of the *Māori* and western scientific conservation and use value continuum underpinning environmental monitoring and environmental performance indicator development under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the conservation pole of the *Māori* and western scientific conservation and use value continuum underpinning environmental monitoring and environmental performance indicator development under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the growth versus conservation value exemplar pole of the *Māori* and western scientific conservation and use value continuum underpinning environmental monitoring and environmental peroramnce indicator development under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the conservation versus growth value exemplar of the *Māori* and western scientific conservation and use value continuum underpinning environmental monitoring and environmental performance indicator development under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.
  - applications already undertaken in lake shore, carbon marketing, land disposal and waste water management *kaitikaitanga* for potential application in the advocation of sustainability under the Resource Management Act 1991 (For example, King et al., 2006; and Simon, 2007a; 2007b; 2007c; 2006).
  - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[273] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1).*

Appendix 8.1g   Research recommendations on the application of synergy in research area g: Theory-empirical categories of the micro modernity value continuum/institutional[274]

Theory-empirical category 3: Research recommendations on applying synergy through theory-empirical research on world national/*Aotearoa* environmental governance and change inter-governmentally/institutional

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the growth pole of the *Māori* and western scientific conservation and use value continuum underpinning inter-governmental institutional environmental governance under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the conservation pole of the *Māori* and western scientific conservation and use value continuum underpinning inter-governmental institutional environmental governance under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the growth versus conservation value exemplar pole of the *Māori* and western scientific conservation and use value continuum underpinning inter-governmental institutional environmental governance under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

- Applying theory-empirical research on the theoretical development and application of synergy at meso late-modernity from the conservation versus growth value exemplar of the *Māori* and western scientific conservation and use value continuum underpinning inter-governmental institutional environmental governance under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

  - applications already undertaken in lake shore, carbon marketing, land disposal and waste water management *kaitikaitanga* for potential application in the advocation of sustainability under the *Resource Management Act 1991* (For example, King et al., 2006; and Simon, 2007a; 2007b; 2007c; 2006).

  - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[274] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1)*.

Appendix 8.1h   Research recommendations the application of synergy in research area h: Theory-empirical categories of the micro modernity value continuum/socio-cultural[275]

Theory-empirical category 4: Research recommendations on applying synergy through theory-empirical research on national/*Aotearoa* environmental governance and change cross-tribally/socio-cultural

- Applying theory-empirical research on the theoretical development and application of synergy at micro late-modernity from the growth pole of the *Māori* and western scientific conservation and use value continuum underpinning cross-tribal local river *kaitiakitanga* under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.
- Applying theory-empirical research on the theoretical development and application of synergy at micro late-modernity from the conservation pole of the *Māori* and western scientific conservation and use value continuum underpinning cross-tribal kaitiakitanga under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.
- Applying theory-empirical research on the theoretical development and application of synergy at micro late-modernity from the growth versus conservation value exemplar pole of the *Māori* and western scientific conservation and use value continuum underpinning cross-tribal local river *kaitiakitanga* under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.
- Applying theory-empirical research on the theoretical development and application of synergy at micro late-modernity from the conservation versus growth value exemplar of the *Māori* and western scientific conservation and use value continuum underpinning cross-tribal local river *kaitiakitanga* under the *RMA 1991* over time in order to empower the contemporary voice of *Māori kaitiaki* regarding *kaitiakitanga* in *Aotearoa* environmental governance and management.

   - applications already undertaken in lake shore, carbon marketing, land disposal and waste water management *kaitikaitanga* for potential application in the advocation of sustainability under the *Resource Management Act 1991* (For example, King et al., 2006; and Simon, 2007a; 2007b; 2007c; 2006).

   - other applications regard the dissemination of knowledge for *Māori* advancement (For example, Simon, 2000; 2001; 2002; 2003; 2004a; 2004b; 2005).

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[275] These research recommendations were drawn from research in progress regarding the application of the synergistic research model, which was simultaneously developed in the thesis. For further details see the *Postscript* of the thesis *(Appendix 9.1).*

APPENDIX 9.1   POSTSCRIPT

Applying the synergistic research model - towards synergy and the empowerment of local *kaitiaki*

Introduction

This postscript reports on the application of the synergistic research model by external agencies dealing with *Waitahanui* and *Harataunga kaitiaki* in local *Aotearoa* environmental governance and management. After briefly summarising this work, a short review is provided.

Work summary

The synergistic research model has (is) already been applied in work endeavours towards synergy and the empowerment of *Waitahanui kaitiaki* concerning carbon market, water, lakeshore and land disposal management and governance; and *Harataunga kaitiaki* concerning foreshore and seabed governance. I briefly identify the work agencies, time periods and types of application of the synergistic research model. My work summary charts are provided in *Tables 9ia,b.*

Tables 9.ia,b Application of the synergistic research model - work summary charts

Table 9.ia Applying the synergistic research model for empowering *Waitahanui kaitiaki* - work summary chart

Agencies	*Time periods*	*Types*
- Carbon Market Solutions (CMS) Limited	2006 - 2007	- *Māori* liaison work for the CMS local carbon market initiative
- Mighty River Power	2003 - 2007	- *Māori* liaison work for the *Waitahanui* reef construction project
- *Taupō* District Council and Environment *Waikato*	2003 - 2007	- *Māori* liaison work for the *Waitahanui* wastewater treatment plant resource consent
- *Taupō* District Council, Environment *Waikato* and AWT[213] consultancy	2006 - 2007	- *Māori* liaison work for the *Taupō* land disposal expansion resource consent

Tables 9.ib Applying the synergistic research model for empowering *Harataunga kaitiaki* - work summary chart

Agency	*Time period*	*Type*
- Ministry of Justice and Environment *Waikato*	2005 - 2007	- Crown research work for the *Ngāti Porou ki Hauraki* claim of territorial customary rights under the Foreshore and Seabed Act 2004

Reviews of the work streams

Thus, the synergistic research model was (is being) applied by external agencies concerning *Māori* liaison and crown research work on *Aotearoa* environmental governance and management. Lastly, this is briefly reviewed, in relation to the purposes, applications and outputs of both work streams (and also in relation to the background of the crown research work stream). I start with the empowerment of *Waitahanui kaitiaki* in the *Māori* liaison work stream; and finish with the empowerment of *Harataunga kaitiaki* in the Crown research work stream.

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[213] AWT (Australian Water Technology New Zealand) consultancy is an engineering company of Australian origin, now based in Auckland, *Aotearoa/*New Zealand.

Review of the Māori liaison work stream - towards synergy and the empowerment of Waitahanui kaitiaki

The purposes, applications and outputs of the *Māori* liaison work stream are briefly reviewed as follows.

Purposes -

- to empower *Waitahanui kaitiaki* in the carbon market practice of *kaitiakitanga* for the *Waitahanui* CMS local carbon market initiative;
- to empower *Waitahanui kaitiaki* in the water management practice of *kaitiakitanga* for the *Waitahanui* wastewater treatment plant resource consent;
- to empower *Waitahanui kaitiaki* in the lakeshore management practice of *kaitiakitanga* for the *Waitahanui* reef construction project; and
- to empower *Waitahanui kaitiaki* in the land disposal management practice of *kaitiakitanga* for the *Taupō* land disposal expansion resource consent.

Applications -

- to apply synergy:
- by adopting a cross-cultural, inter-disciplinary, multi-dimensional, evolutionary and comparative approach;
- by advocating collaboration, pro-activity and reconciliation; and
- by seeking the balance between difference/conflict and affinity/convergence.

- to apply reflexivity:
- by engaging the reflexive practice of carbon market, water, lakeshore, and land disposal management (and foreshore governance) *kaitiakitanga* by *Waitahanui kaitiaki* (and by *Harataunga kaitiaki)*;
- by engaging the reflexive practice of carbon market, water, lakeshore, and land disposal management (and foreshore governance) by Carbon

Market Solutions Limited, *Taupō* District Council, Environment *Waikato,* AWT Consultancy and Mighty River Power staff (and by Crown officials); and

- by engaging one's own reflexivity in the reflexive practice of carbon market, water, lakeshore, and land disposal management (and foreshore governance) between local *kaitiaki* and agency officials.

- to apply reflexive practices of synergy:

- by the utilisation of reflexive strategies of *Māori tikanga* as required;
- by the utilisation of reflexive strategies of *Pākehā* culture, science and technology as required;
- by the non-utilisation of reflexive strategies of *Māori tikanga* as required; and
- by the non-utilisation of reflexive strategies of *Pākehā* culture, science and technology as required.

Outputs -

- Work outputs of the Waitahanui CMS local initiative:

- *Māori* liaison administration records from 2006 - 2007;
- One *Māori* liaison research paper; and
- One *Māori* liaison community consultation *hui.*

Background information on the *Waitahanui* CMS local initiative can be found in King et al (2006).

- Work outputs of the Waitahanui wastewater treatment plant resource consent;

- *Māori* liaison administration records from 2003 - 2007;
- Five *Māori* liaison community consultation *hui;* and
- *Māori* liaison administration of a *Waitahanui* wastewater treatment plant community consultation group.

I elaborate on the *Waitahanui* wastewater treatment plant resource consent in Simon, 2007a.

- *Work outputs of the Waitahanui reef construction project;*

- *Māori* liaison administration records from 2003 - 2007;
- Five *Māori* liaison community consultation hui; and
- *Māori* liaison administration for undertaking the construction of the reef.

A more in depth account of the *Waitahanui* reef construction project can be found in Simon, 2007b.

- *Work outputs of the Taupō land disposal expansion resource consent;*

- *Māori* liaison administration records from 2006 - 2007;
- Two *Māori* liaison meetings; and
- *Māori* liaison administration for undertaking the community consultation work.

I expand on the *Taupō* land disposal expansion resource consent in Simon, 2007c.

Review of the Crown research work - towards synergy and the empowerment of Harataunga kaitiaki

The purpose, background and outcomes of the Crown research work stream are briefly reviewed, as follows.

Purpose -

- to empower *Harataunga kaitiaki* in the foreshore and seabed governance practice of *kaitiakitanga* for the *Ngāti Porou ki Hauraki* claim of territorial customary rights under the Foreshore and Seabed Act 2004.

Background -

Ngāti Porou ki Hauraki - Harataunga and *Matāora Bays*

In November 2005, *Ngāti Porou ki Hauraki* (led by Mr John *Tamahere*) and the Crown began negotiations over *kaitiaki* claims to territorial customary rights at *Harataunga* and *Matāora* Bays. This was the first *iwi* in the Thames/Coromandel and *Hauraki* districts to make such a claim for the recognition of *kaitiakitanga* under the Foreshore and Seabed Act 2004. A location map of the *Ngāti Porou ki Hauraki* area of interest, namely *Harataunga* and *Matāora* Bays is provided in *Figure 9.1*.
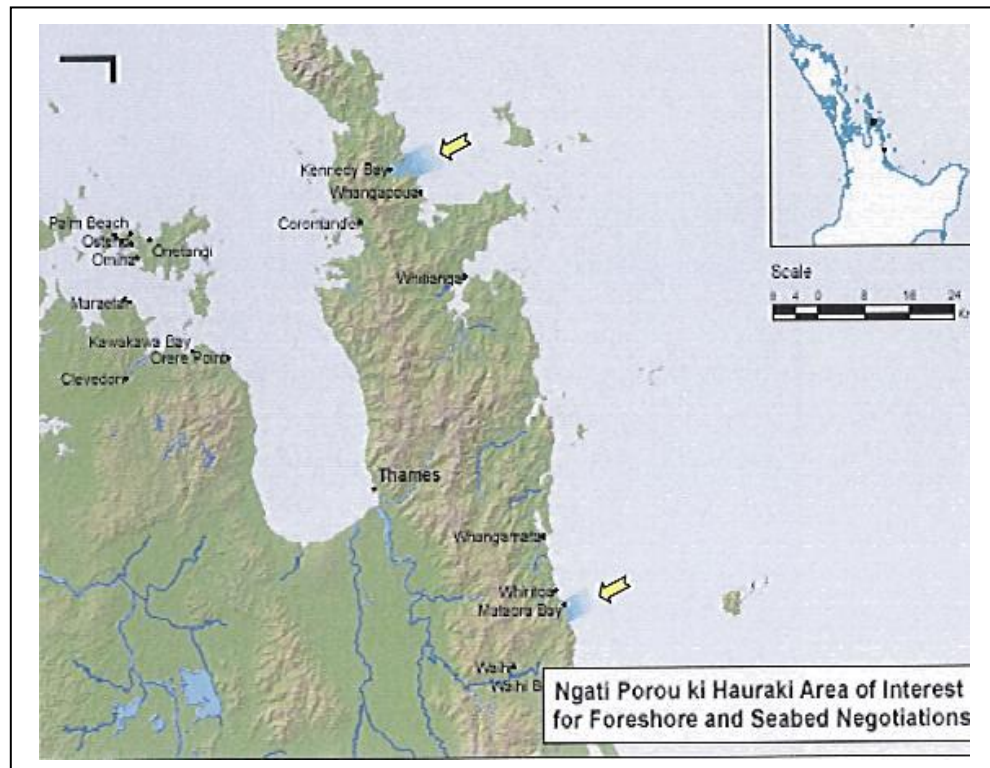
Figure 9.1   Location map of *Harataunga* and *Matāora* Bays[note]

<u>The Foreshore and Seabed Act 2004 - Changes to the *Resource Management Act 1991*</u>

Relevant changes to the *Resource Management Act 1991* pertain to the Resource Management (Foreshore and Seabed) Amendment Act 2004 and the Foreshore and Seabed Act 2004.

The former deals with consequential changes to the *Resource Management Act 1991,* whereas the later relates mainly to the ownership of the public foreshore and seabed, rights of access and navigation, and the recognition of territorial customary rights.

Note

From Ministry of Justice (2006). <u>Contracted location maps.</u> Wellington, New Zealand. Copyright 2006 by Ministry of Justice. Printed with permission.

Overall, the main changes to *Resource Management Act 1991*[258] concern plan-making and resource consent processes, and bring new obligations for *Aotearoa* environmental authorities in relation to:

- customary rights orders granted by the High Court (or *Māori* Land Court); and
- the establishment of foreshore and seabed reserves after a finding of territorial customary rights by the High Court.

Territorial customary rights

To have a claim for a territorial customary right recognised by the Crown and confirmed by the High Court, *Ngāti Porou ki Hauraki* must meet the following two criteria:

- that the particular area of foreshore and seabed was used and occupied by the group to the exclusion of all persons who do not belong to the group without substantial interruption from 1840 up until commencement of the Foreshore and Seabed Act 2004; and
- that the group has continuous title to dry land contiguous to the particular area of foreshore and seabed since 1840 until the commencement of the Act, notwithstanding the presence of marginal strips, esplanade reserves, *Māori* reservations, roads or road reserves, railway lines or other reserves.

Legal test requirements of territorial customary rights are spelled out in section 32 of the Foreshore and Seabed Act 2004, as detailed in *Appendix 9.2*.

Outputs -

- Crown researcher administration records from 2005 - 2007;
- Crown reports on research planning of the traditional oral evidence and the environmental authority evidence;

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[258] A full version of the Resource Management (Foreshore and Seabed) Act 2004 is available on www.legislation.govt.nz/.

- Crown reports on conceptual research of the traditional oral evidence and the environmental authority evidence;

- Crown reports on methodological research of the traditional oral evidence and the environmental authority evidence;

- Crown reports on empirical research of the traditional oral evidence and the environmental authority evidence; and

- Crown reports on analytical research of the traditional oral evidence and the environmental authority evidence.

For my research purposes, these reports were collated by reference to 'the synergy paper series'. A detailed account can be found in *Patete* et al (2006) and Simon, 2006a-y.

Concluding note

To conclude, this postscript reported on the application of the synergistic research model by external agencies dealing with *Māori kaitiaki* in *Aotearoa* environmental governance and management. It showed that research endeavours towards synergy and the empowerment of *kaitiaki* have (are) already being applied with respect to bettering the carbon market, wastewater, lakeshore, land disposal, and foreshore and seabed environmental governance and management practices of *kaitiakitanga.*

APPENDIX 9.2   SECTION 32 OF THE FORESHORE AND SEABED ACT 2004 - FURTHER DETAILS

32   Meaning of territorial customary rights

(1) In this Act, *territorial customary rights,* in relation to a group, means customary title or an aboriginal title that could be recognised at common law and that -
(a) is founded on the exclusive use and occupation of a particular area of the public foreshore and seabed by the group; and
(b) entitled the group, until the commencement of this Part, to exclusive use and occupation of that area.

(2) For the purposes of subsection (1)(a), a group may be regarded as having had exclusive use and occupation of an area of the public foreshore and seabed only if -
(a) that area was used and occupied, to the exclusion of all persons who did not belong to the group without substantial interruption in the period that commenced in 1840 and ended with the commencement of this Part; and
(b) the group had continuous title to contiguous land.

(3) In assessing, for the purposes of subsection (1)(b), whether a group had exclusive use and occupation of an area of the public foreshore and seabed, no account may be taken of any spiritual or cultural association with the area, unless that association is manifested in a physical activity or use related to a natural or physical resource.

(4) For the purposes of this section, the right of a group to exclusive use and occupation of a particular area of the public foreshore and seabed is not lost merely because rights of navigation have from time to time been exercised in respect of the area.

(5) If the area of the public foreshore and seabed over which a group claims a right to exclusive use and occupation was at any time used or occupied by persons who did not belong to the group, the right must be regarded as having been terminated unless those persons -
(a) were expressly or implied permitted by members of the group to occupy or use the area; and
(b) recognised the group's authority to exclude from the area any person who did not belong to the group.

(6) In this section, -

contiguous land means any land that is above the line of mean water springs and that -
(a) is contiguous to the area of the public foreshore and seabed in respect of which the application is made or to any significant part of that area; or
(b) would, but for the purposes of any of the following kinds of land, be contiguous to that area or any significant part of that area:
    (i)   a marginal strip within the meaning of section 2(1) of the Conservation Act 1987:

     (ii)   an esplanade reserve within the meaning of section 2(1) of the *Resource Management Act 1991:*

     (iii)   a *Māori* reservation set apart under section 303 of *Te Ture Whenua Māori* Act 1993:

     (iv)   a road of any description or a road reserve:

     (v)   any railway line within the meaning of section 2(1) of the Transport Services Licensing Act 1989:

     (vi)   any reserve similar in nature to any land of a kind described in any of subparagraphs (i) to (v)

contiguous land means a title to any contiguous land that has at all times, since 1840, been held by the applicant group or by any of its members (whether or not the nature or form of that title was, at any time, changed or affected by any Crown grant, certificate of title, lease, or any other instrument of title).

(7)   To avoid any doubt, in this section, a reference to a member, in relation to a group, includes a past member and a deceased member of the group.

(Foreshore and Seabed Act 2004; 22 - 24).