

Making carbon-trading mechanisms accessible to indigenous groups: Lessons from working with Maori in New Zealand

Garth Harmsworth and Troy Baisden

Landcare Research

Palmerston North, New Zealand

HarmsworthG@LandcareResearch.co.nz

BaisdenT@LandcareResearch.co.nz

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Background

- FCCC and Kyoto address climate change because of environmental and social equity issues.
- Maori are the indigenous people of New Zealand.
- We are working with Maori groups
 - increasing participation in science,
 - finding out about aspirations and issues
 - to inform policy we ask Maori how they will respond to policy options
- We examine what we know about Maori land, and its suitability for C sequestration
- We aim to help develop policy that works for Maori, in line with Maori issues, governance structures, aspirations

The Kyoto Protocol in New Zealand

- New Zealand has signed and ratified
- Target is 1990 baseline
- Unusual emissions inventory:
 - Animal agriculture dominates emissions
 - Exotic forests dominate sinks
- Policy frameworks being developed
 - C taxes, etc. will apply
 - Initial “projects” approaches underway
 - No credit for exotic forests in CP1.
 - **Permanent forest sink mechanism**



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Definitions

A vertical decorative strip on the left side of the slide, featuring a green background with a woven pattern. It contains several circular and rectangular icons: a globe, a tree, a landscape with a river and trees, a spiral, a sunburst, and a globe with a wire.

Afforestation (FCCC)

“Direct human-induced conversion of land that has not been forested **for a period of at least 50 years**, through planting seeding, human-induced promotion etc”

Reforestation (FCCC)

“Direct human-induced conversion of non-forested land to forested land through planting, seeding, human promotion...on land that was forested”

Marginal land

“Severe limitations to agricultural use, >26 degrees, highly susceptible to erosion, low productivity, not sustainable under pasture. Class 7, 8, and some (10-30%) Class 6 land

Undeveloped land

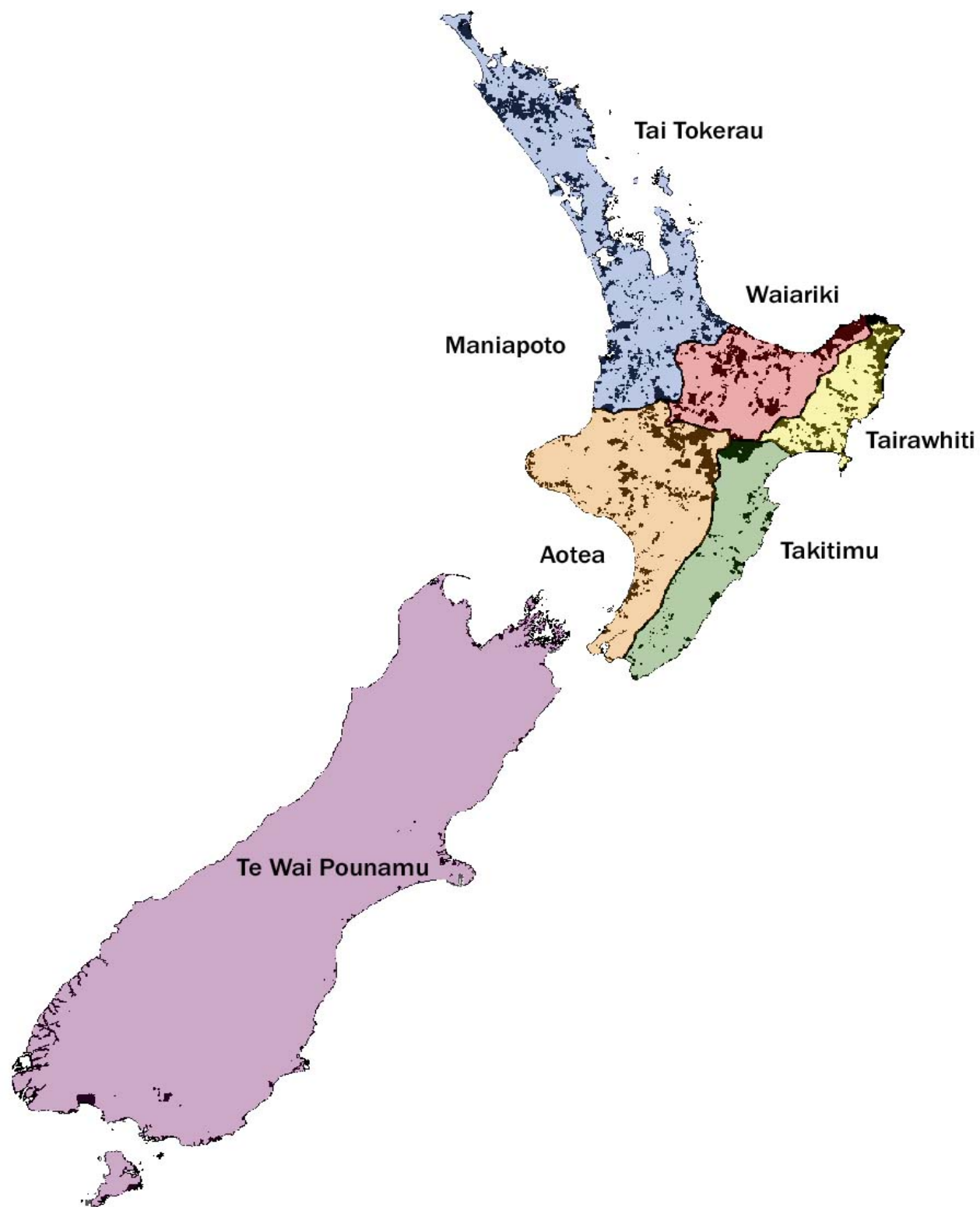
“Under-utilised, not developed, not in a productive state, unimproved pasture, scrub, indigenous forest”



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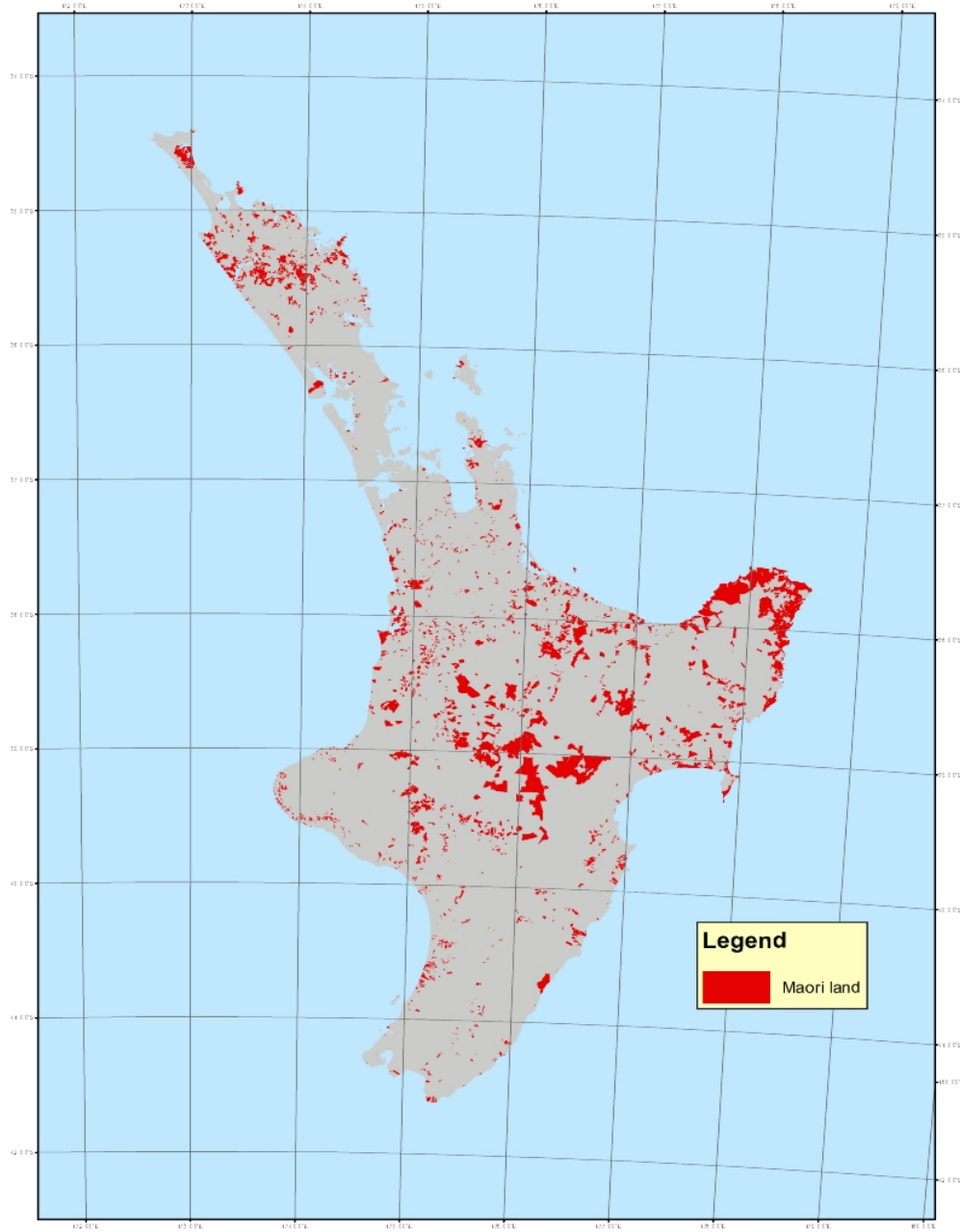
Maori: People and the Land

- Indigenous Maori make up 15% of present New Zealand population (an assimilated, multi-cultural population with a strong Maori identity)
- Maori are of polynesian extract (came to NZ ~1000 years ago)
- 80% of Maori live in urban centres, but many own land throughout New Zealand based on ancestral-tribal connections and family (whanau) lineage
- Maori land now represents only 6% (1.5 Mha) of the total NZ land area
- Much of this land is fragmented, large proportion described as undeveloped (~600,000 ha), large areas marginal



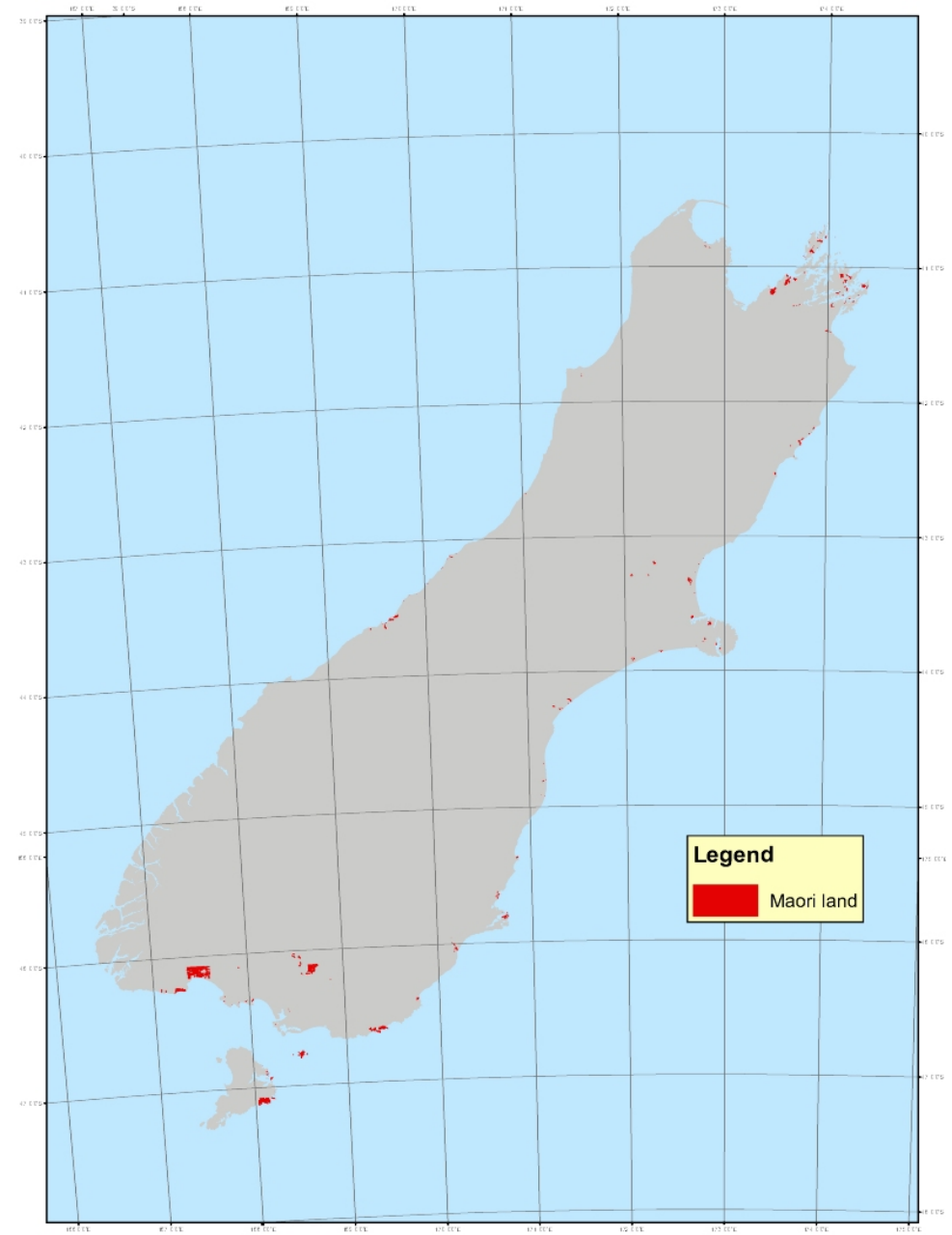
The Extent of Maori Land

North Island: Maori Land Court Blocks



Map reference: Aotearoa: jōōtērihōson ūmāteihōson land blocks/hi maori land/māi

South Island: Maori Land Court Blocks



Map reference: Aotearoa: jōōtērihōson ūmāteihōson land blocks/hi maori land/māi

Maori Land: Ownership & Governance

- Maori land differs from the western model
 - Multiple-ownership; many forms of governance and management
 - Ancestral and historical connections are important
 - These factors are reflected in legislation, politics, and land-owner aspirations
- Existing information on Maori land in NZ poor
 - Myths and anecdotes dominate

**This may be typical of land owned or managed
by indigenous groups around the world**

Research: GIS Analysis of Maori Land

- Quantify land areas for:
 1. New Zealand
 2. Gisborne-East Coast – Tairāwhiti (case study)

Determine:

- Maori land characteristics – land use capability
- Maori ownership (governance) structures (decision-making ability of groups)
- Areas of marginal land
- Land cover (land use)
- Land eligible for reforestation/afforestation under Kyoto
- Opportunities for re/afforestation and risks of deforestation



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Key research questions

- **How much Maori land is available for afforestation/reforestation, and at risk to deforestation?**
- How are Maori likely to respond to policies?
- How do governance structures affect Maori land use? decision-making?
- How can we design policies to address the concerns of Maori?

Legislation and Classification

Maori Land Act (Te Ture Whenua Act) 1993

Classifies land into:

1. Maori freehold land (5 main types of trust)
 2. Maori customary land
 3. General land owned by Maori
- Where multiply-owned land results in absentee ownership, the Office of the Maori Trustee manages land on behalf of owners



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Governance of Maori Land

Ahu Whenua Trusts	50%
Whanau Trusts	6%
Kaitiaki Trusts	0.01%
Whenua Topu Trusts	2%
Putea Trusts	0%
Incorporations	13%
Trust Boards	4%
No Clear Structure	13%
Other	2%
Not Described	4%



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Land Use Capability and Maori Land Š New Zealand Š 1996

Land Use Capability Class	Maori Land area (ha)	% of Total Land	% of Maori Land	Description
1	6 060	0.7%	0.4%	Most versatile
2	40 755	4.6%	2.7%	Good land with slight arable limitations
3	87 116	9.2%	5.8%	Moderate arable limitations
4	148 628	10.3%	9.8%	More suitable to pasture and forestry
5	5757	0.8%	0.04%	Unsuitable for cropping
6	515 730	28.0%	34.0%	Moderate limitations to pasture
7	487 701	21.5%	32.2%	>26 slopes
8	201 201	22.1%	13.3%	Mountain Land
Other	21 665	3.0%	1.4%	Non-arable land, wetlands etc.

Well over 40% of Maori land regarded as marginal (Class 7 and 8 and areas on Class 6)



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Land Cover

Overall

Maori Land

Indigenous forest

23%

33%

Scrub (regenerating)

23%

20%

Planted Exotic Forest

7%

12%

Primary pastoral

44%

30%

Primary horticultural

1%

0.1%

Inland water and wetlands

0.5%

2.0%

Other (Urban, mines,
tussock)

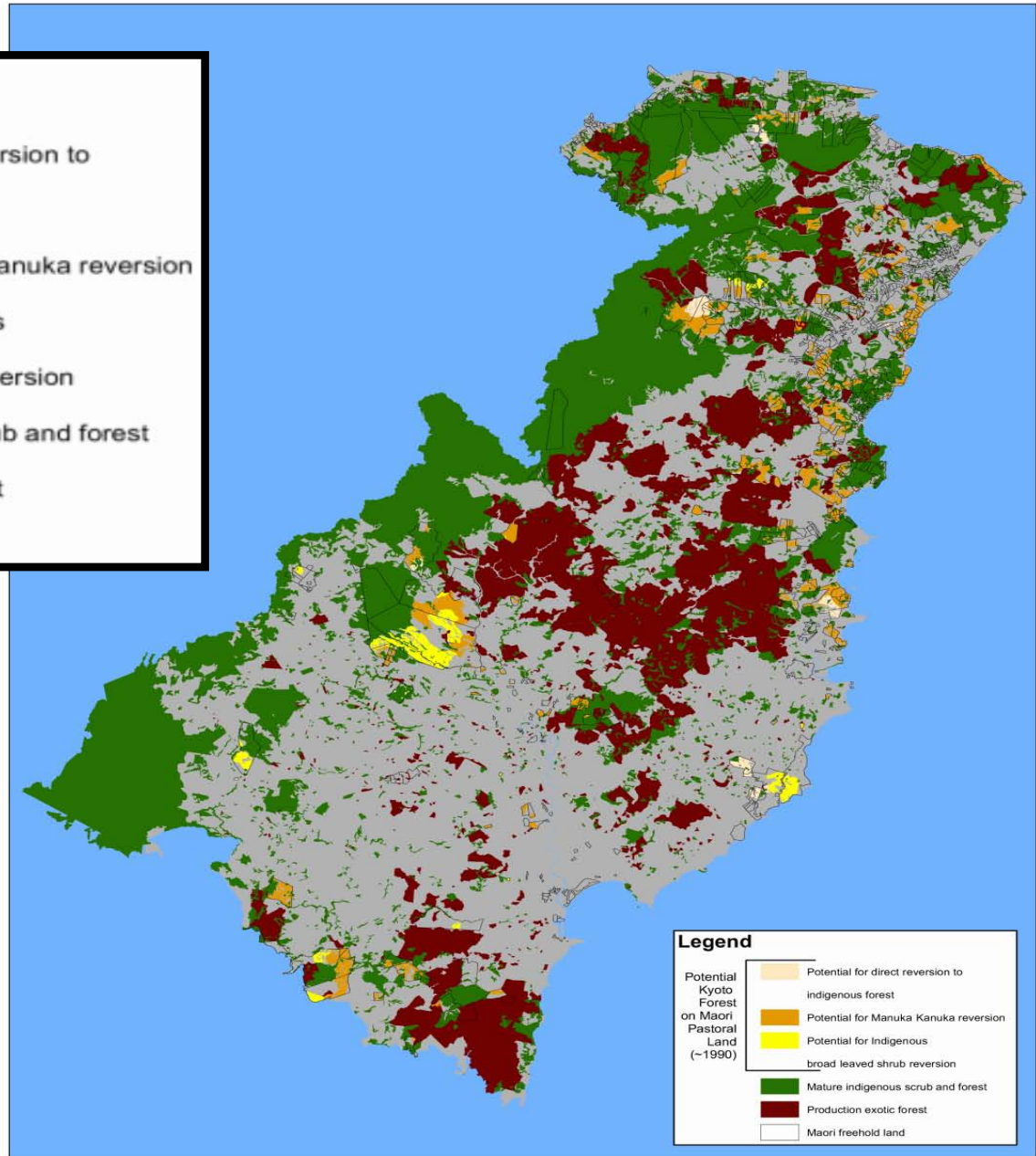
1.5%

2.0%

Legend

Potential
Kyoto
Forest
on Maori
Pastoral
Land
(~1990)

-  Potential for direct reversion to indigenous forest
-  Potential for Manuka Kanuka reversion
-  Potential for Indigenous broad leaved shrub reversion
-  Mature indigenous scrub and forest
-  Production exotic forest
-  Maori freehold land



Legend

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Key Findings: Land Analysis

- Total of 300,000 – 400,000 ha of Maori land defined as marginal
- Of this – most Maori marginal land is in mature indigenous forest and scrub
- Only about 55,000 ha Maori pastoral land (grassland) is marginal
- Most marginal Maori pastoral land (~45,000 ha) is in the case study region
- Existing land in indigenous forest and scrub is at risk of clearance
- *Aim policies at promoting afforestation/ reforestation and examine risk of clearing regenerating indigenous forest for exotic plantations*



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Key research questions

- How much Maori land is available for afforestation/reforestation, and at risk to deforestation?
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Maori Perspectives

- Place paramount importance on retention and control of their land
- Are constrained by practical governance and ownership issues
- Are constrained by costs associated with new schemes or changing land-use
- Consider Local Government costs and restrictions
- Have unique perspectives on contracts, concepts of perpetuity, payment schedules, customary use, provision for continued use and rights under any scheme
- Have aspirations and visions for land
- Enthusiastically want to participate in research and policy development.
- Want to play a positive role in the environment
- Value employment and investment in their community

C Trading Potential

- \$25 capped value in NZ during 2008-2012.
- Native scrub (pioneer forest species) in Gisborne district averaged 7 tonnes CO₂ per year with ages up to ~ 50 years.
- Economic returns from carbon credits estimated at between \$55 and \$175 per ha.
- Needs to consider
 - Differing land-governance frameworks
 - Economic status
 - Socio-cultural aspirations

Key Findings: Policy Design

To design effective policy:

- Need to understand complex governance or management structures to facilitate participatory decision-making
- Need to determine community aspirations, define issues, inform policy
- Design appropriate policy around stakeholders
- *Design appropriate policy instruments to guide land-use and management and permit C trading*

Current Policy Development

Effective policy for
afforestation/reforestation
and sustainable utilisation of
Maori owned land

Scrub and Forest on Maori Land

Policy Strands

(encouraging Maori participation)



Sustainable
Harvest
Policy

Non-harvest
Policy

Sustainable
harvest of
native forests

Biofuels
Firewood

Manuka honey
Pharmaceuticals
Nutraceuticals

Land not in
forest at 1990 -
Afforestation
Carbon trading
\$/ha

Permanent
native forest

Customary Use (e.g. rongoa-medicines, raranga-weaving,
whakairo-trees for carving, customary harvest of flora and fauna)

Cultural and Ecotourism

Development opportunities
for Maori

Goals/Outcomes

- Reduce carbon emissions, create 'forest sinks'
- NZ society aspirations for sustainable development
- Maori aspirations to achieve economic, social, cultural and environmental goals

Benefits:

- Social and economic development
- Biodiversity enhancement
- Enhancement of Maori values
- Aquatic health
- Soil conservation, reduced erosion risk
- Reduced flooding risk to lowlands
- Reduce biosecurity threats



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Conclusions

- Carbon trading is seen as another land use opportunity within the context of Maori land management and sustainable development
- Due to the focus on social, cultural and environmental continuity, lessons learned from examining Maori land can be broadly applicable to rural development and the developing world.



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MAKING A DIFFERENCE FOR A TRULY CLEAN, GREEN NEW ZEALAND

Experimental Design for sequestration contracts on Maori land

Maori would like to see contracts that:

- Take into account Maori ownership structures (Ahu Whenua Trusts, Incorporations etc.)
- Secure Maori ownership, rights, control
- Reflect Maori land use decisions/opportunities
- Encourage and reward afforestation/reforestation
- Reflect Maori values (e.g. customary use)
- Provide a length of contract terms (e.g. 10 years, 15 years, 25 years)
- Provide some type of annual payment, a.p. options
- Allow long-term planning decisions
- Provide opt out clauses
- Include help with fencing, pest management