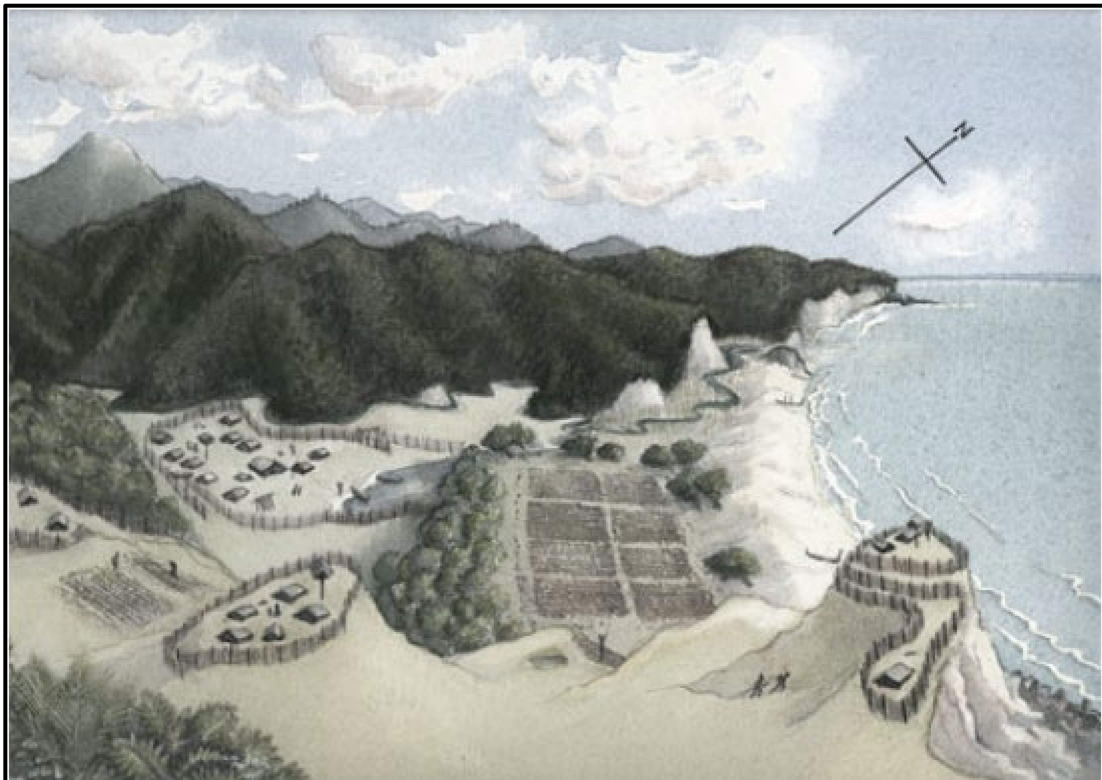
# “Kia Whakatōmuri te Haere Whakamua: Reimagining primary production based on traditional models of the past.”

A review of western farming philosophies and how to recalibrate Primary Production using Mātauranga Māori to re-develop trans-cultural farming systems.

**Nga Uri o te Ngahere Trust, Torere Opotiki**

**July 2023**



Pre-European te Ao Māori horticulture, and Kainga with a fortified Pā in foreground[1]

[1] Artist Rozel Pharazyn. Sourced from Te Ara - The Encyclopedia of New Zealand for research and education purposes only.

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**E tau nei ki runga i a tātou katoa te wairua aroha**
**kia ngakaunui tātou ki te hāpai i ā tātou mahi katoa**
**i roto i te hari me te koa me te aroha anō o tētahi ki tētahi,**
**kia puawai tātou katoa.**
**Whakakahangia tātou kia mahi tahi**
**kia manaaki, kia tiaki**
**i tō tātou rōpū, i tō tātou hapori, i tō tātou taiao hoki.**
**Mauri ora!**

*Settle upon us the loving spirit*
*to enable us to work together.*
*in joy and with respect toward one another*
*so that we all grow and blossom together.*
*Also strengthen us to work together,*
*to nurture and look after our organisations,*
*our society and our environment.*

*This report has been prepared by Ngā Uri o te Ngahere Trust for the Our Land and Water National Science Challenge and is confidential. No part of this report may be copied, used, modified or disclosed by any means without consent.*

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## The Purpose

Overall, the primary purpose of this think piece is to offer a subjective perspective, to stimulate critical thinking, and contribute to the ongoing discourse and understanding of

Primary Production in Aotearoa, its current challenges, and to explore ways of recalibrating the sector's development compass moving forward.

We hypothesised that a future land use and Primary Production model, which addresses current sustainability, climate crises, consumer preference shifts and social licence challenges faced by the sector, could be addressed via a recalibration into a Te Ao Māori Primary Production System [TAMPPS].

To achieve a trans-cultural shift in the current paradigm the research concluded that the development and use of a **Symbiotic Multi-Trophic Agro-ecology** (SMTA) framework is the best approach for supporting non-indigenous producers to enter into a Te Ao Māori Primary Production System. The natural symbiosis evident within te Ao Māori principles [whakapapa and whanaungatanga] advance the western concept of Multi-Trophic Agro-ecology into a Symbiotic MTA model **[**SMTA] which is an agricultural approach that aims to enhance the sustainability and ecological balance of farming systems by promoting synergetic relationships between different trophic levels within the ecosystem, within a <u>cultural context</u>. This model is therefore whakapapa based.

The paper relied on extensive qualitative research and personal narrative. Unlike traditional research papers that focus on presenting objective data and analysis, this think pieces is more subjective in nature and captures participants personal reflections, opinions, and interpretations.

The paper provides a platform for individuals to critically analyse and interpret complex topics associated with Primary Production and a range of sustainability challenges faced by the sector. It delves into the underlying causes, consequences, and implications of current land use models, offering unique perspective and insights on how they could be reconfigured.

The paper presents logical reasoning and supporting evidence to engage readers and prompt them to think critically about why Primary Production struggles to achieve a social licence to continue in its current form, and how traditional Māori land use practices could create a positive shift.

Its primary objective is to initiate dialogue and debate to serve as a catalyst for further exploration of alternative production systems. A future model based on compelling lessons from the past.

The paper draws on the participants personal experiences, anecdotes, and observations to provide a unique transcultural lens through which to view New Zealand's agricultural production.

Specifically – it investigates traditional Māori land use, agriculture and economic development during the mid-1800s, how these innovative models operated, why they were subsequently destroyed, and how those early traditional principle and practices could provide "change agency" in current [and future] Primary Production across Aotearoa.

Above all, the paper advocates for critical and urgent changes and reforms.

**“Ki te kahore he whakakitenga ka ngaro te iwi”**

*Without foresight or vision the people will be lost*

***Kingi Tawhiao Potatau te Wherowhero***

## Policy Settings

Changes in land use and primary production requires a behavioural shift but it is not immune from Government policy. It is hypothesised that a think piece on traditional Māori land use and agriculture has the potential to create a positive change on policy settings in New Zealand that affect current primary production in several ways.

- Raising awareness and cultural understanding
- Promoting cultural recognition and partnership
- Advancing cultural awareness and understanding
- Highlighting environmental sustainability
- Encouraging collaboration and knowledge exchange
- Informing policy development and reform
- Influencing public opinion

By exploring and highlighting traditional Māori land use and agricultural practices, this think piece can increase awareness and understanding of the historical and cultural significance of these practices. It can shed light on the sustainable and holistic approaches employed by Māori in land management, showcasing their deep connection to the environment and the value of indigenous knowledge.

## The Need – a loss of social licence

The concept of "social license to operate" refers to the acceptance, trust, and approval granted by the local community and stakeholders to an industry or organization to conduct its activities. While it is difficult to provide a definitive answer to why agricultural production in New Zealand may have lost its social license to operate, there are several factors that could contribute to this perception.

These are:

- Environmental concerns:
- Indigenous rights and land issues:
- Perception of corporate influence:

- Communication and transparency:
- Animal welfare issues:

New Zealand's agricultural sector, particularly intensive farming practices, has faced criticism for its environmental impacts. Issues such as water pollution, soil degradation, greenhouse gas emissions, and loss of biodiversity have raised concerns among the public and environmental advocates. The perception that agricultural production is not adequately addressing or mitigating these environmental issues can erode social acceptance.

## Implications

A lack of social license to operate in the agricultural sector can have implications for consumer reticence, which refers to consumer hesitation or reluctance in engaging with or supporting a particular product or industry. Some impacts can be:

- Consumer trust:
- Product choice and preferences:
- Boycotts and activism:
- Labelling and transparency:
- Brand reputation:

Social license is closely tied to trust. When consumers perceive that an industry or organisation lacks social acceptance or is not operating in line with their values and expectations, trust can be eroded.

## The Researchers

The key researchers / authors who contributed to the paper are:

a. **Garry Watson** – Chairman Nga Uri o te Ngahere Trust [Tainui / Tūhoe]: he specialises in ethno-ecology, ethno-agroecology, and Rongoa Māori and has worked with a wide range of Crown Research Institutes and Universities over the past 10 years building cultural capability and transcultural research methodologies.
b. **Te Rangatahi o te Whenua Trust. –** the Trust was engaged in the research in recognition of the role Rangatahi [youth] are taking in defining the changes they need for their future. As was noted in consultation with these active participants; "Young people should be at the forefront of global change and innovation. Empowered, they can be key agents for development and peace. If, however, they are left on society's margins, all of us will be impoverished. Let us ensure that all young people have every opportunity to participate fully in the lives of their societies." –**Kofi Annan.** Their mahi was invaluable as to the outcome of the research.

## Nga Rangatira

The research was supported by Rangatira from across the central North Island, East Cape and the Far North rohe, including:

a. **Matua Kevin Prime:** Matua Kevin was made a Companion of the New Zealand Order of Merit for service to Māori, health and the environment in 2023. Kevin is currently a kaumātua for Foundation North and Centre for Social Impact. He was a founding member of Nga Whenua Rahui, Chair of the Reconnecting Northland Steering Committee and Te Kahui Māori Advisory Bio-Heritage National Science Challenge. He was the founder of the Ngati Hine kereru restoration programme. His "day job" is as an Environment Court Commissioner and he has recently been appointed to the Waitangi Tribunal

b. **Hilton Collier**: Hilton has a Bachelor of Agricultural Science and has spent his career working as a Farm Management Consultant specialising in the Māori agribusiness sector, including a number of substantial Māori farms in the Northern Hawkes Bay/Tairawhiti. Hilton is involved in several leading marketing businesses including First Light Wagyu and Merino NZ. He holds several company directorships, chairs the Eastern Institute of Technology and has initiated several regionally focused environmental/community development projects in Tairawhiti.

c. **Mana Newton**: Mana is the current Group Chief Executive Officer of Tauhara North No.2 Trust. Previous he spent many years at Deloitte in both the USA practice, specialising in external audit, and as a partner in Deloitte New Zealand business advisory where he helped establish the Māori business development team. Tauhara is involved in geothermal power generation co-owning 3 power stations including the Nga Awa Purua (NAP) Power Station which is currently the largest single turbine geothermal power station in the world. The Trust is also engaged in tourism and agriculture production in the central North Island region.

## Structure- a Hybrid Narrative / Academic Paper

Both academic papers and narrative reports have their own roles and contributions in effecting societal change. Academic papers provide rigorous research, data, and theoretical frameworks that inform policymaking and drive evidence-based decision-making. Narrative reports, on the other hand, can catalyse public awareness, empathy, and grassroots movements that influence societal attitudes and behaviours. Together, in a hybrid model, they can complement and reinforce each other, ultimately contributing to positive social impact.

The majority of the research undertaken in this paper was qualitative – engaging with Māori across communities and researching documentaries and literature narratives. The more narrative elements of this paper better engage Māori landowners and community members, who are the primary recipients of this research.  Whilst it contains academic research and analysis, a narrative report can be more influential in terms of the societal change that is critically needed in Aotearoa's primary production sector, compared to an academic paper for several reasons.

In summary these include:

- Emotional connection:
- Accessibility and relatability:
- Engaging diverse perspectives:
- Mobilising action:
- Bridging gaps in research, and
- Public engagement:

The narratives used storytelling techniques and personal anecdotes to create an emotional connection with the readers. They appeal to people's emotions, values, and personal experiences, which can have a more profound impact on motivating action and driving change. Academic papers, on the other hand, typically focus on presenting facts, data, and logical arguments, which may be less effective in eliciting an adequate response.

The use of plain language, relatable examples, and storytelling makes the content of a narrative report more easily understandable and relatable to a broader [Māori] audience. This accessibility allows the message to reach and resonate with a wider range of individuals, including those who may not have a strong background in academia or a specific field.

Narrative reports often incorporate diverse perspectives and voices, including those of individuals directly affected by the issues at hand [case studies]. By sharing personal stories and experiences, the narratives provided a platform for marginalised or underrepresented voices to be heard. This inclusivity and representation can generate empathy and understanding, leading to increased support for societal/ cultural change.

They have shown a potential to mobilise action by presenting real-life stories, highlighting injustices, and inspiring individuals to take action. They may motivate participation in advocacy, activism, or community initiatives related to the critical issues discussed in this paper. The narrative format can also evoke a sense of urgency and a call to action that may be more compelling than the more detached and objective tone of an academic paper. And action is critical.

Also - academic papers often target a specialised audience within academia, while narrative reports aim to engage a broader public. By translating complex research findings or academic concepts into accessible narratives, the narratives shared in this paper begin to bridge the gap between academic knowledge and cultural engagement. They have begun to bring research out of academic circles and into a broader cultural sphere, facilitating a wider

understanding of complex issues and encouraging transcultural dialogue and [long awaited] action.

## Societal / Cultural Change

Societal change in New Zealand's agricultural sector is critical to sustainability and to climate change mitigation and adaptation for several reasons. These are well documented and include:

- Greenhouse gas emissions:
- Land use and deforestation:
- Water management:
- Biodiversity conservation:
- Resilient food systems:
- Sustainable livelihoods:

The agricultural sector is a significant contributor to greenhouse gas emissions in New Zealand, primarily through enteric fermentation (methane emissions from livestock) and nitrous oxide emissions from fertiliser use and animal waste. Reducing emissions from agriculture is crucial for achieving national and international climate targets. Societal change can drive the adoption of sustainable farming practices, such as precision agriculture, improved livestock management, and nutrient management, which can help mitigate these emissions.

Land-use change, including deforestation for agricultural expansion, contributes to greenhouse gas emissions and loss of carbon sinks. Societal change can support shifts towards more sustainable land use practices, such as reforestation, and regenerative agriculture, which sequester carbon and enhance the resilience of ecosystems to climate change.

Climate change impacts, such as changing rainfall patterns and increased frequency of droughts, affect water availability and quality. Societal change and demands can promote sustainable water management practices in agriculture, including efficient irrigation systems, water conservation measures, and responsible nutrient management. These practices can help adapt to changing water availability and protect water resources for both agricultural and environmental purposes.

The agricultural sector has a significant impact on biodiversity through habitat loss, chemical use, and changes in land use. Protecting and restoring biodiversity is crucial for ecosystem resilience and climate change adaptation. Societal change can support conservation efforts, promote agroecological practices that enhance biodiversity, and encourage the integration of nature-based solutions in agriculture, such as planting native vegetation corridors and adopting sustainable pest and disease management strategies.

Climate change also poses risks to food production, including disruptions in crop yields, increased pest and disease pressures, and changing growing conditions. Societal change can drive the transition to more resilient and diversified food systems that are less dependent on resource-intensive practices and vulnerable to climate shocks. This includes promoting local and regenerative food production, supporting agroforestry and agroecology, and encouraging sustainable food supply chains.

These changes in the agricultural sector can contribute to the development of sustainable livelihoods for farmers and rural communities. By supporting transitions to climate-smart agriculture, diversifying income streams, and fostering rural entrepreneurship, societal needs can enhance the economic viability and resilience of agricultural communities in the face of climate change challenges.

Overall, societal change in New Zealand's agricultural sector is critical for land use and production sustainability, climate change mitigation and its adaptation as it addresses the sector's environmental impacts, builds resilience, protects ecosystems, and promotes sustainable food production and livelihoods. It requires collaboration among farmers, policymakers, researchers, consumers, and other stakeholders to drive transformative change and create a more sustainable and climate-resilient agricultural sector.

This paper stimulates discussion across all those parties, but it does it via a unique Māori cultural perspective.

Generally, by embracing alternative approaches to agriculture, society may shift its view on industrial or corporate primary production, if it recalibrates towards cultural values, alternative approaches to farming, or visions of a more localised and sustainable food system. Embracing traditional knowledge, community-led initiatives, symbiotic agroecology, organic farming, and agroforestry practices can be seen as more aligned with societal aspirations for ecological harmony, cultural preservation, and local empowerment.

## Summary of Research Sections

As advised, this think piece is a mix of qualitative and quantitative research which produces both a narrative and academic output.

The primary audience of the paper is Māori landowners and practitioners in the primary production sector.   The overarching objective of the work is: *to harmonise land use principles and practice in a pragmatic transcultural primary production system, utilising traditional Māori skills and practices.*

To achieve the desired [and critically required] outcome, scrutiny of multiple facets of primary production and an honest examination of the history of industrial agriculture and colonisation within Aotearoa was required.

The multifaceted issues covered in the research include.

- Capturing the extraordinary entrepreneurial skills and capability that New Zealand Māori had during the so-called “golden years” of Māori agriculture and economic development [mid-1800s].
- Articulating the history of colonisation and its impact on Māori and the loss of te Ao Māori principles and practices – since the late 1800s, including:
    a) Wakefield and the NZ Company.
    b) The Treaty of Waitangi.
    c) The Waikato Wars and,
    d) An accumulation of Laws and legal constructs initiated between the mid-1800s and 1993.
- Answering the often-asked question as to why the “golden years” model failed – with unflinching honesty.
- Assessing the 1970s land use practices, prior to agriculture industrialisation and corporatisation.
- Summarising post 1970s industrial agriculture and its wide-reaching impacts including reports on:
    a) Fresh Water Ecology
    b) Biodiversity decline.
    c) Environmental Impacts,
    d) Climate Change including the East Cape / Tairawhiti “slash report” as a case study, and,
    e) Global impacts and new monitoring systems such as Earth Systems Boundaries
- Assessing recent trends and alternative land use options such as symbiotic agroecology – and its subsets including organic farming, regen agriculture, circular economics, and others.
- Reporting on the differentiation between Lore and Law [whakapapa-based systems of land use vs common Law individual land ownership]
- Defining esoteric knowledge and skills and indigeneity,
- Documenting the post 1890s Māori renaissance and the current Māori economy and Māori entrepreneurial capability.
- Advancing knowledge and understanding on te Ao Māori and Mātauranga Māori and incorporating SECE values within production and supply chains,
- Indigenous branding and premium values and Gen Z consumer trends.
- Then - proposing a Te Ao Māori Primary Production System [TAMPPS] to recalibrate land use and production into a more sustainable model – based on traditional principles and practices.

By using a hybrid methodology [being the stated mix of qualitative and qualitative research methods] with a structured cultural bias, this research has advanced recognised Kaupapa Māori research methodologies.

Extensive investigations were undertaken to articulate often neglected histories regarding colonisation and its whānau and hapū impacts, and broad interviews and literature searches, documentaries and examination of archive materials.
The paper concludes that some change is evident within the sector, but that scale is missing [and needed]. It finds that change urgency could not be more compelling, given the current perfect storm of financial stress, breaches of Earth Systems Boundaries, the climate crisis, consumer preferences shift, and cultural tensions.

Here in Aotearoa research has shown that industrial agriculture has led to primary production breaching 5 of the 9 planetary boundaries which refers to the idea that certain agricultural practices have had detrimental effects on the environment, such as biodiversity loss, climate change, and water pollution. Advocates for indigenous land use practices interviewed in the preparation of this think piece posit that returning to traditional land use and production methods can help address these issues.

There are a number of ways in which indigenous Māori land use practices could potentially contribute to resolving the global crisis, based on the findings of assessments of the “golden years” of Māori agriculture and economic development in the mid-1800s, within less than 35 years of first colonial contact.

The study found that Indigenous land use practices often incorporate a deep understanding of local ecosystems and emphasise the preservation of biodiversity. By adopting these practices, we can promote sustainable agriculture that maintains or enhances biodiversity, protecting valuable species and ecosystems.

In assessing agroecology and regenerative agriculture, Indigenous land use practices were found to have predated the employment of regenerative agricultural techniques, such as agroforestry, permaculture, and rotational grazing. These traditional methods focus on building healthy soils, increasing water retention, and reducing erosion. They promoted the protection of Papatūānuku, sustainable food production while reducing degraded land and subsequently they sequestered soil carbon.

Traditional knowledge and sustainable practices within Indigenous communities have accumulated extensive knowledge about local climates [Maramataka], soils, and plants over multiple generations – spanning 35 plus generations in Aotearoa. By incorporating traditional knowledge into agricultural practices, we can improve sustainability and resilience in food production. Indigenous practices essentially emphasise long-term sustainability, considering the impact on future generations – building intergenerational equity.

Water management was found to be an important element of traditional indigenous agricultural systems which often include sophisticated water management techniques, such as traditional irrigation systems and rainwater harvesting. These methods can help

address water scarcity issues, particularly in regions facing increased water stress due to climate change.
Local and community-based systems were the foundation of Indigenous land use practices often prioritising local and community-based food systems, rather than individual production for profit. By focusing on smaller-scale, and diversified farming, these practices can reduce dependence on monoculture and long-distance transportation, resulting in shorter supply chains, localised resilience, lower carbon emissions and a more robust food system.

Cultural preservation and social equity inherent within Indigenous land use practices are deeply rooted in cultural traditions and social structures. Recognising and respecting indigenous rights, land tenure systems, and traditional practices can help promote social equity and empower indigenous communities to lead in sustainable land management. The exploration of a return to indigenous land use practices offers valuable insights and solutions, and it is important to determine how these practices may be suitable or scalable for modern agricultural systems.

Politically - to begin a more culturally appropriate and inclusive process that begins to address the clear challenges faced by the primary production sector, it is crucial to engage in dialogue, collaboration, and knowledge exchange with indigenous communities, to ensure their rights and perspectives are respected and incorporated into effective broader agricultural and environmental policies.

Lastly, the research found that a new wave of Rangatahi Māori are emerging to become the change agents needed in a broad range of land use, business and policy sectors, having risen through the cultural renaissance of Kohanga Reo, Kura Kaupapa schooling, University degrees [in Earth Sciences, Economics, Western Science, Philosophy etc] all of which have been achieved in te Reo Māori].

They have returned to traditional knowledge and practice and are now ensconced within administration and governance of whenua Māori land blocks, Trusts, Māori businesses, post Treaty settlement entities, academic institutions, Govt agencies and increasingly within Parliament itself. It is clear that this new age of Rangatahi deeply respect their elders, and it is also clear that while age considers, youth ventures.

*Young people are fitter to invent than to judge; fitter for execution than for counsel; and more fit for new projects than for settled business.* – **Francis Bacon**

# Methodology

**A Hybrid Research Inquiry**

Science research, its cultural bias and its restrictive research methodologies have for the past 180 years dominated the research space across Aotearoa. Science has been a primary tool of colonisation which has led directly to land confiscation, inequality, poor health, inadequate housing, poor land development, and low Māori educational achievement. The data that drives decision making and the KPI's set by fund managers within Government are Eurocentric and mostly based on quantitative data and are therefore hardly fit for purpose for Māori research, and development.

Science has a key role to play in kaupapa Māori research and development – as a verifier. It can validate the authenticity, efficacy and use value of traditional knowledge. It is thus seen as being a tool of validation which also opens up interesting additional research opportunities across "star bursts" or consequential research that can merge into a more fused methodology – a transcultural research methodology [TRM] that can be co-designed by te Ao Māori-based researchers and western science practitioners.

The design and development of this unique research methodology used in this paper began 5 years ago with Nga Uri o te Ngahere Trust providing capacity building and capability with AgResearch Ltd scientists, who were selected based on their commitment to bi-cultural learning and their skill sets and passion for improving land development and primary production.

A fusion of qualitative and quantitative research tools with a structured cultural bias was essential to the outcome sought, thus, both qualitative and quantitative research methodologies were required to accommodate the dual requirements of two knowledge systems, one being based in te Ao Māori principles and the other in western science.

A hybrid research methodology fused both qualitative and quantitative research processes. This ensured the research gathered both the cultural experiences and Mātauranga Māori with an ethno-centric research process as well as the statistical analysis required within the western science research process.

The qualitative research had a structured ethnic bias which captured the rich cultural narrative required to give the research its Mātauranga Māori foundation. This bias was risk and stress tested based on known pros and cons within any bias applied to research methodology design.

The development of this hybrid model draws for and acknowledges the important research on related topics researched online.[2]

[2] https://www.scribbr.com/methodology/qualitative-research/

It is abridged and culturally contextualised [as required because the original data was science-based and European.]

## The Qualitative Research [QR] Framework.

A qualitative research framework was established to collect and analyze non numerical data and to explore and understand cultural concepts and intergenerational experiences which, when gathered, provided in-depth insights into Māori primary production entrepreneurship during the first 35 years of European contact - in the mid-1800s.

Qualitative research is commonly used in the humanities and social sciences, in subjects such as anthropology, sociology, education, health sciences, history, etc.[3]

Qualitative research questions were co-designed with Kaumatua and Tohunga to set culturally safe boundaries and to ensure a freedom to operate was established within the research program and its defined methodology. This led directly to the development of an ethnographical and tikanga-based research process being cultivated in an appropriate manner, for use within the program.

**Approaches to qualitative research**

The use of Qualitative research helps to understand how people experience their world. While there are many approaches to qualitative research, they tend to be flexible and focus on retaining rich meaning when interpreting data.[5] In this case the QR process captured the rich tapestry of knowledge and experiences both good [in pre-European times] and bad [post annihilation and colonisation], and the true indigeneity and whakapapa / identity of tangata whenua, before structured racism and assimilation policies destroyed traditional values, principles and practices - which are even today still only beginning to re-emerge 180 years after the signing of a contractual partnership agreement at Waitangi.

Figure 1[4]

Although the common QR approaches such as **grounded theory**, **action research, phenomenological research**, and **narrative research** were used, the pragmatic bias that underpinned the research was **ethnography**. Researchers immersed themselves in rōpū and culture within the organizations and individuals consulted.

[3] pritha, B. (2022, October 2). definition of qualitative research. https://uscupstate.libguides.com/c.php?g=1172600&p=91480

[4] https://www.questionpro.com/blog/qualitative-research-methods/

[5] https://4sightglobal.com/kenya/qualitative-market-research/.

Action research ensures Researchers and participants collaboratively link theory to practice to drive social change. With grounded research, Researchers collected rich data on a research topic and develop theories inductively. With the **Phenomenological research** element, the Researchers investigate a phenomenon or event by describing and interpreting participants' lived experiences, and with the **Narrative Research** researchers examine how stories were told to understand how participants perceive and make sense of their experiences.[6]

The QR researchers were trained to conduct the inquiry in accordance with tikanga Māori whereby they considered themselves "instruments" of the Tupuna [who hold the knowledge] within the research because; all observations, interpretations and analyses are supported by them, but filtered through their own personal lens. The relevance and efficacy of the research required an in-depth reflection on the approach taken and articulation on the choices made in collecting and analysing the data.

Some of the sub methods referenced were:

- **Observations:** recording what was seen, heard, or encountered.
- **Interviews:** conducting person to person interviews at a whānau level.
- **Rōpū - Focus groups:** asking groups of people questions and creating discussion at a hapū level.
- **Additional research:** collecting existing information from alternate media sources, i.e., video, publications, recordings and so on

**Qualitative data analysis**

The data analysis shared common steps:

1. **Prepare and organise data.**
2. **Review and explore data**. Analyse the information to identify any recurring themes or patterns that become evident.
3. **Develop a data coding system.**
4. **Assign codes to the data.**
5. **Identify recurring themes**. Link codes together into cohesive, overarching themes.

An overarching discourse analysis was undertaken to examine how communication functions and the role of language in producing specific outcomes within particular circumstances, coupled to [cultural] **Textual Analysis** - to explore the content, structure, and design of te Reo and Mātauranga Māori.

This approach produced advantages as it preserved the voice and perspective of te Taiao [the first Principle] and the participant tangata whenua, the practitioners, which can be adjusted as new research questions arise.

[6] pritha, B. (2022, October 2). definition of qualitative research. https://uscupstate.libguides.com/c.php?g=1172600&p=9148042

The hybrid Qualitative research produced:

- **Flexibility** - The process of gathering and analysing data can be adjusted to accommodate newly discovered concepts or patterns which are not inflexible or predetermined.
- **Natural settings** - Data collection occurs in real-world contexts or in naturalistic ways.
- **Meaningful insights** - Elaborate accounts of individuals' encounters, emotions, and attitudes can be employed in the development, experimentation, or enhancement of systems or products.
- **Creation of innovative concepts** - Unstructured replies allow researchers to reveal fresh issues or prospects that they would not have conceived of otherwise.

## A [structured] Ethnographical Bias

Ethnography[7] was used to immerse the researchers in the community to observe behaviour and interactions up close. Ethnography is a flexible research method that allowed the researchers to gain a comprehensive understanding of the shared culture, conventions, and social dynamics of a rōpū. However, this involves some practical and ethical challenges which were offset and addressed via the adoption of a kaupapa Māori process. This allowed the researchers to study specific communities within the researcher's own society.

Ethnography's primary benefit is providing researchers with direct exposure to a group's customs and practices, making it an effective method for gaining first-hand knowledge about human behaviour and interactions in a specific setting. By immersing oneself in the social environment, one can obtain more genuine information and naturally observe dynamics that might have been missed through mere questioning.

Ethnography is a versatile and adaptable technique that doesn't seek to confirm a universal theory or experiment with a hypothesis, but instead strives to provide a comprehensive narrative of a specific culture. This approach permits an examination of multiple aspects of the group and its surroundings.

To offset any disadvantages in the use of this methodology, the research focused at first regionally to get broad perspectives, then it narrowed down into the Tainui / Waikato region to ensure the research was drawn from [and delivered to] a representative and relatively small and easily accessible group, to ensure that the research was feasible within the limited timeframe available the complete a think piece.

Because of the nature of the research and the sanctity of much of the information shared, a **closed** or private setting was preferred, which is harder to access. The ethnography was [as required] overt. An explicit approach involves the ethnographer openly expressing their

[7] https://anthropology.princeton.edu/undergraduate/what-ethnography

motives and recognising their function as a researcher to the individuals within the group being studied. Ethical considerations usually make overt ethnography the preferred method since participants can provide knowledgeable consent.

In contrast, the researchers adopted a passive role in which they stepped back from the actions of others, acting as a more detached observer and refraining from directly engaging in the community's activities. This non-participatory observation technique provides more room for meticulous observation.

Gaining access to the community and building trust is critical to the quality of the research outcome. The researchers drew strongly on whakapapa connection and the use of a stress tested cultural ethics framework to maintain the Mana and integrity within the research undertaken. Ethnography is a delicate research method that may require several attempts to identify an acceptable and culturally appropriate approach. Flexibility is crucial in this context, as when access to the desired setting is unfeasible, the ethnographer must consider alternative options that can offer equivalent information.

**Working with contributors**

All ethnographies involve the use of informed information. These individuals are members of the studied community who act as the main liaisons for the researcher, helping to provide access and aiding in their comprehension of the roopu.

**Observing the wider rōpū.**

The fundamental element of ethnography is to observe the group from an internal perspective. While being engaged in the setting, observations are recorded through notetaking, which serves as the foundation of the written ethnography. The notes were usually written by hand, but other solutions such as voice recording were useful alternatives.

Field notes document any significant information, including observed phenomena and conducted conversations, and this was summarised as preliminary analysis. Once observations are completed, the ethnography is written after reading the field notes and constructing a convincing description of the observed dynamics.

## Ethnography Structure

The composition of an ethnography can take various forms, such as an article, thesis, or even an entire book. This document typically adheres to the conventional framework for empirical research, which includes an introduction, methods, results, discussion, and conclusion.

The objective of an ethnography is to present a comprehensive and reliable description of the social environment being studied.

The content of an ethnography is to produce a thorough and authoritative depiction of the social context in which the researcher was embedded—to provide mana and to show that the interpretations are representative of [cultural] reality.

The Ethnography is not solely concerned with making observations, but also strives to explain the observed phenomena in a structured and narrative manner. This forms the Māori narrative context which by extension forms this think piece. It was drawn from [and will become] oral history.[8]

## Kaupapa Māori Research

Critically important elements.

For the TAMPPS programme to achieve its objectives of delivery to Māori needs and aspirations, the research undertaken to collate relative data ultimately has to be undertaken using a kaupapa Māori methodology.

An Indigenous research paradigm is an act of reclaiming and restoring traditional Indigenous ways of knowing and knowledge while simultaneously including contemporary knowledge and realities.

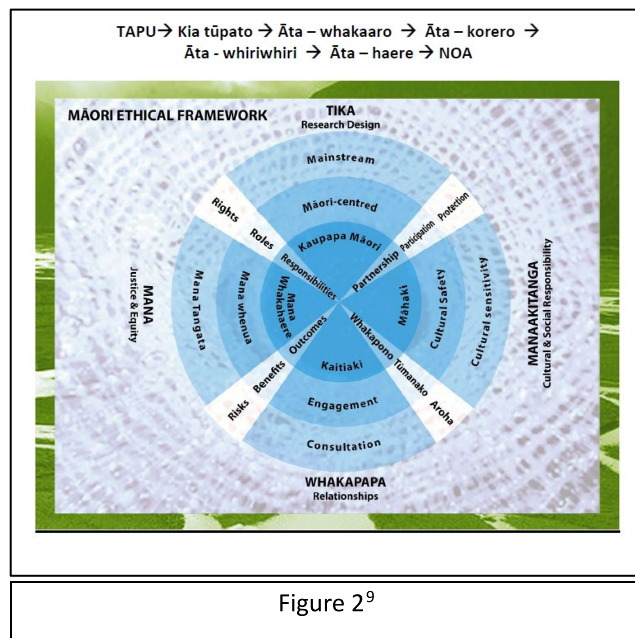


Figure 2[9]

Although it is not inherently unethical to use indigenous knowledge in research or engage with indigenous people, ethical concerns can arise when the use of indigenous knowledge or engagement with indigenous communities is not conducted in a way that respects their IP rights, values, and well-being.

Examples of unethical research practices follow.

a) Researchers and institutions often hold significant power and resources compared to indigenous communities. This power imbalance can lead to the domination of research agendas, the appropriation of knowledge, and the exclusion of indigenous voices and perspectives. Ethical engagement requires recognising and addressing these power imbalances through meaningful collaboration, equitable partnerships, and shared decision-making processes.

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[8] What Is Ethnography? | Definition, Guide & Examples Published on March 13, 2020 by Jack Caulfield. Revised on December 7, 2022.

[9] TE ARA TIKA Guidelines for Māori Research Ethics: A framework for researchers and ethics committee members 2010

b) Using indigenous knowledge without proper consent, attribution, or compensation can be exploitative. Taking this knowledge without proper recognition and benefits can perpetuate historical patterns of exploitation and contribute to the marginalisation of indigenous peoples. Indigenous knowledge is often the result of generations of experience and is deeply tied to the cultural, spiritual, place and social fabric of indigenous communities.

c) Indigenous communities have the right to self-determination, which includes the ability to control and manage their own knowledge systems. This is explicit in the Wai 262 Report to Government. Engaging with indigenous people without their free, prior, and informed consent and without respecting their decision-making processes undermines their autonomy and can reinforce a history of colonisation and paternalism.

d) If research or engagement with indigenous communities does not have a positive impact on their well-being, it can be seen as unethical. Indigenous communities have often been subjected to research that has exploited them or resulted in harmful consequences, such as loss of cultural identity, land dispossession, or negative health outcomes. Therefore, it is crucial to ensure that any engagement or research actively contributes to the well-being, self-determination, and empowerment of indigenous communities.

Research should be guided by principles of reciprocity, mutual benefit, cultural sensitivity, and social justice, aiming to promote the well-being and self-determination of indigenous peoples. Ultimately, ethical research and engagement must be grounded in recognising indigenous rights, respecting their knowledge systems, and addressing historical injustices. To ensure ethical practices, it is essential to engage in respectful dialogue, build trust, and establish genuine partnerships with indigenous communities.

## Indigenous Intellectual Property

Protecting indigenous intellectual property (IIP) within Western legal frameworks can be challenging due to several factors, and racism plays a significant role in exacerbating these difficulties. Overall, recognising and addressing the role of racism in the protection of indigenous IP is crucial for creating a more equitable and respectful legal framework that upholds the rights and aspirations of indigenous communities. Those rights are explicitly set out in the United Nations Declaration on the Rights of Indigenous Peoples (A/RES/61/295) [UNDRIP] articles.[10]

Some challenges and ways in which racism contributes to the problem include:

1. Western legal systems have historically been designed to protect individual property rights based on concepts of individual ownership and commercialisation. Indigenous knowledge and cultural expressions often differ from this individualistic perspective, as they are communal and collectively held. Western legal frameworks may not adequately recognise or accommodate the unique nature of indigenous IP, leading

[10] https://social.desa.un.org/sites/default/files/migrated/19/2018/11/UNDRIP_E_web.pdf

to a lack of protection.

2. Racism and cultural biases can lead to a lack of understanding and appreciation of indigenous knowledge systems and cultural expressions. The dominant Western worldview often marginalises indigenous knowledge, dismissing it as primitive or less valuable. This cultural bias can make it difficult to gain recognition and protection for indigenous IP within existing legal frameworks.

3. Racism reinforces power imbalances between indigenous communities and the dominant society. Indigenous communities may face significant barriers when navigating legal systems due to limited access to resources, including legal expertise and financial support. This imbalance makes it challenging for indigenous communities to effectively protect their IP rights within the legal framework.

4. Racism can contribute to the appropriation and exploitation of indigenous knowledge and cultural expressions. Indigenous IP is often exploited for commercial gain without proper consent, attribution, or compensation. Racism can perpetuate the idea that indigenous knowledge is available for unrestricted use or that it is a free resource for anyone to exploit, further marginalising indigenous communities.

5. Western legal frameworks may not adequately address the cultural and spiritual significance of indigenous knowledge and cultural expressions. These frameworks often focus on tangible property and economic considerations, neglecting the intangible and sacred aspects of indigenous IP. This lack of cultural sensitivity hinders the development of appropriate legal mechanisms for protecting indigenous IP.

Addressing these challenges requires eliminating racism and the scripting of a more inclusive legal framework. This can be achieved through:

1. Challenging racism and discriminatory practices within legal institutions and promoting equity and justice for indigenous peoples.
2. Assigning all IP including project IP rights to the indigenous party.
3. Supporting indigenous communities in navigating legal processes by providing resources, legal aid, and capacity-building initiatives.
4. Engaging in meaningful consultation and collaboration with indigenous communities to develop legal mechanisms that align with their cultural values and aspirations.
5. Increasing cultural awareness and sensitivity within legal systems to better understand and appreciate indigenous knowledge and cultural expressions.
6. Establishing legal mechanisms that recognise and protect collective and communal rights to indigenous IP, moving beyond individualistic perspectives.

Developing Indigenous ontologies that recognise the agency and personhood of non-human entities and emphasise reciprocal relationships into legal protections of natural ecosystems and place is emerging [Tūhoe Settlement and the Whanganui River claim]. This has required a shift in legal frameworks and perspectives. Here are some considerations for developing such legal protections:

1. Recognition of intrinsic value: Indigenous ontologies often acknowledge the intrinsic value and rights of non-human entities, including ecosystems, animals, and natural features. Legal protections should recognise and uphold this intrinsic value, treating natural entities as legal persons or entities with inherent rights.
2. Rights-based approaches: Legal protections can be developed based on a rights-based framework that grants legal personhood or rights to ecosystems or specific natural entities. These rights can include the right to exist, thrive, regenerate, and maintain their own integrity, among others. The legal system would then recognise the duty of humans to respect and protect these rights.
3. Indigenous governance and decision-making: Indigenous ontologies emphasise the importance of Indigenous governance and decision-making in relation to land, ecosystems, and natural resources. Legal protections should involve and empower Indigenous communities in decision-making processes, allowing them to exercise their inherent rights and responsibilities as stewards of the land.
4. Reciprocal relationships and responsibilities: Indigenous ontologies highlight the significance of reciprocal relationships between humans and the natural world. Legal protections can incorporate principles of reciprocity, requiring humans to act as responsible stewards and maintain reciprocal relationships with ecosystems and non-human entities. This may involve legal obligations to sustainably manage and protect natural resources, engage in ecological restoration efforts, and minimise harm to ecosystems.
5. Holistic and interconnected approaches: Indigenous ontologies often emphasise the interconnectedness and interdependence of all beings and elements in an ecosystem. Legal protections should adopt holistic approaches that consider the broader ecological context and the impacts of human activities on the entire ecosystem. This may involve implementing ecosystem-based management strategies, considering cumulative impacts, and recognising the interconnections between different natural entities.
6. Collaborative legal frameworks: Developing legal protections that reflect Indigenous ontologies requires collaboration between Indigenous communities, legal experts, policymakers, and other stakeholders. The legal frameworks should be developed through inclusive and participatory processes that respect and incorporate Indigenous knowledge, perspectives, and customary laws.
7. Reconciliation and decolonisation: Incorporating Indigenous ontologies into legal protections necessitates addressing historical injustices and implementing processes of reconciliation and decolonisation. This may involve legal reforms to recognise and accommodate Indigenous legal systems, providing avenues for the revitalisation and application of Indigenous laws and governance structures.

It's important to note that the development and implementation of legal protections rooted in Indigenous ontologies require a respectful and collaborative approach, with meaningful engagement and consent from Indigenous communities. This process should be guided by principles of cultural sensitivity, self-determination, and the recognition of Indigenous rights and sovereignty.

## Integration and Risk

The research interface could provide a complementary place and space for both Indigenous Mātauranga and methodologies to come together with appropriate Euro-Western methodologies and methods to answer the research question optimally.[11] [12] It also offers a site of innovation and convergence that facilitates producing culturally responsive theory.[13] However - While adopting a research interface that brings together Indigenous knowledge systems and Euro-Western methodologies can have potential benefits[14], it is important to consider the associated risks and challenges.

The risks are tangible:

1. There is a risk of Euro-Western methodologies dominating or diluting Indigenous knowledge systems within the research interface. Euro-Western approaches may be privileged and given greater weight, while Indigenous knowledge systems might be marginalised or reduced to fit within Euro-Western frameworks. This can result in the loss of the unique perspectives and contributions that Indigenous knowledge brings.

2. The research interface should guard against the appropriation and exploitation of Indigenous knowledge. Euro-Western researchers may unintentionally or intentionally appropriate Indigenous knowledge for their own gain without proper consent, attribution, or benefit-sharing. Indigenous communities may be hesitant to share their knowledge due to historical experiences of exploitation, further perpetuating power imbalances.

3. Mismatches in cultural understanding and interpretation can arise when attempting to merge different knowledge systems. Euro-Western researchers may lack deep cultural knowledge or context, which can lead to misinterpretations, misrepresentations, or misunderstandings of Indigenous knowledge. This can reinforce existing biases and perpetuate stereotypes.

4. Historically, Euro-Western methodologies have been privileged, resulting in unequal research relationships. It is essential to foster partnerships that prioritise Indigenous self-determination, community participation, and decision-making authority

[11]Durie, M. (2004). Understanding health and illness: Research at the interface between science and indigenous knowledge. International Journal of Epidemiology, 33(5), 1138–1143.

[12] Wilson D, Neville S. Culturally safe research with vulnerable populations. Contemp Nurse. 2009 Aug;33(1):69-79. doi: 10.5172/conu.33.1.69. PMID: 19715497.

[13] Macfarlane, S., Macfarlane, A., & Gillon, G. (2015). Sharing the food baskets of knowledge: Creating space for a blending of streams. In A. Macfarlane, S. Macfarlane & M. Webber. (Eds.), Sociocultural realities: Exploring new horizons, (pp. 52 – 67). Christchurch, NZ: Canterbury University Press.

[14] ibid

throughout the research process.

5. Research involving Indigenous communities must uphold the principles of free, prior, and informed consent. Ensuring that community members are properly informed about the research, its purpose, potential risks, and benefits is crucial. Respecting protocols and cultural Kawa for knowledge sharing and protection is essential to avoid potential harm.

To mitigate these risks, it is important to approach the research interface with cultural humility, respect, and a willingness to learn from Indigenous knowledge systems. This includes practices which:

1. Invest in building cultural competence and understanding among researchers involved in the interface. This includes acknowledging and addressing biases, seeking cultural mentorship, and engaging in ongoing learning and dialogue.
2. Develop ethical frameworks and protocols that guide research in a culturally sensitive and respectful manner. This should include principles of informed consent, intellectual property rights, privacy, and confidentiality.
3. Establish mechanisms for equitable benefit-sharing that respect Indigenous rights, knowledge, and cultural protocols. This can include fair compensation, capacity-building initiatives, and ensuring that research outcomes contribute to the well-being of Indigenous communities.
4. Foster true collaboration and equal partnerships with Indigenous communities, ensuring their voices are central in the research process and decision-making.
5. Foster long-term relationships with Indigenous communities built on trust, reciprocity, and mutual respect. This helps to ensure that research is grounded in ongoing dialogue and consultation, rather than one-time transactions.

By acknowledging and actively addressing these risks, researchers can work towards creating a research interface that facilitates the production of culturally responsive theory while upholding the rights, well-being, and self-determination of Indigenous communities.

Kaupapa Māori research must be Māori led, not just Māori centric. The research interface is a functional space whereby two compatible approaches to knowledge development can come together without contest, but it cannot be dominant culture subjugated. It is a space for interactive negotiation, and the establishment of culturally appropriate processes and practices to ensure the conduct of culturally safe and meaningful research.[2]

Lorelei Lambert[15] suggests Indigenous research has four distinctive dimensions:

1. It focuses on issues of local concern rather than being reliant on Euro-Western theory to define the research.
2. It is contextually bound, and therefore, produces relevant and meaningful knowledge grounded in local experiences.
3. It can utilise both Indigenous and Western theories and,

[15] Lambert, L. (2014). Research for Indigenous survival: Indigenous research methodologies in the behavioral sciences. Salish Kootenai College Press.

4. An Indigenous research paradigm informs assumptions about reality, knowledge, and values.

Māori society has its own distinctive knowledge base and has its origins in the metaphysical realm. As Tuakana Nepe once said, Kaupapa Māori is "a body of knowledge' accumulated by experiences through history, of the Māori people."[16] Nepe explains her perspective of the knowledge form as being derived from epistemologies that involve the systematic organisation of beliefs, experiences, understandings and of the interactions of Māori people upon Māori people, and Māori people upon their world.

## Mōhiotanga

Mātauranga Māori and Mōhiotanga are both concepts rooted in the indigenous knowledge systems of the Māori people of New Zealand. While they share similarities, they have distinct meanings and applications.

Mātauranga Māori refers to the body of knowledge and understanding developed by Māori communities over generations. It encompasses diverse areas such as language, customs, spirituality, ancestral connections, traditional practices, and ecological knowledge. Mātauranga Māori reflects the holistic worldview of the Māori people and is deeply connected to their cultural identity and relationship with the natural world.

Mōhiotanga, on the other hand, is wisdom. It is a term that specifically refers to the knowledge, understanding, and practice of the tohunga, and the accumulation of expertise and knowledge derived of hundreds of years of intergenerational application of Mātauranga Māori.  Those who possess this wisdom are highly respected and skilled experts in Māori culture and spirituality. The tohunga are traditionally regarded as guardians and custodians of spiritual and esoteric knowledge.

Mōhiotanga encompasses their expertise in fields such as rituals, healing, genealogy, cosmology, and other specialized areas.
While Mātauranga Māori is a broader concept encompassing the collective knowledge of the Māori people, Mōhiotanga is more specific to the specialized knowledge. The tohunga play a crucial role in preserving, transmitting, and applying this knowledge within Māori communities.

It is important to note that the concepts of Mātauranga Māori and Mōhiotanga are deeply intertwined. Mōhiotanga is an integral part of Mātauranga Māori and contributes to the rich tapestry of indigenous knowledge and practices, but it sits at a superior level of learning and enlightenment.

Both concepts are central to the cultural, social, and spiritual life of the Māori people and are fundamental to understanding and respecting Māori perspectives and worldviews.

[16] Tuakana Mate Nepe (1991) Kaupapa Māori – An Educational Intervention System

In contemporary contexts, efforts are being made to revitalise and promote Mātauranga Māori and Mōhiotanga, recognising their value and importance in shaping sustainable and culturally responsive approaches to various domains, including education, environmental management, health, and governance. But care must be taken to ensure that this promotion is not another form of colonial capture of indigenous knowledge that will not benefit indigenous people.

“A Kaupapa Māori base (Māori philosophy and principles) i.e., local theoretical positioning related to being Māori, presupposes that: The validity and legitimacy of Māori language and culture is taken for granted; The survival and revival of Māori language and culture is imperative. The struggle for autonomy over their own cultural wellbeing, and over their own lives is vital to Māori survival.[6]

To restate; Kaupapa Māori knowledge is the systematic organisation of beliefs, experiences, understandings and interpretations of the interactions of Māori people upon Māori people, and Māori people upon their world.[17]

## Research and Colonisation

Research has historically been used as a tool of colonisation[18] that shaped the construction of Indigenous people’s post-settlement and influenced how they were subsequently understood. Recognising these historical injustices, there have been efforts to decolonise research methodologies and approaches. This includes fostering collaborative research relationships, empowering Indigenous communities to lead research that aligns with their own priorities and respecting Indigenous knowledge systems and ways of knowing.

By centring Indigenous voices, perspectives, and self-determination, research can begin to challenge and disrupt the legacy of colonisation, contribute to the reclamation of Indigenous identities, and support the revitalisation of Indigenous knowledge and practices.

Some of the colonial processes used to marginalise Māori are:

a) Research conducted during and after colonial periods often aimed to categorise and classify Indigenous peoples based on racial and cultural characteristics. This categorisation was deeply rooted in racist and Eurocentric ideologies, perpetuating stereotypes and reinforcing the idea of Indigenous peoples as "other" or inferior to the dominant society.

b) Research conducted in the name of science was used to justify and legitimise colonisation and the dispossession of Indigenous lands and resources. Pseudo-

[17] Smith, G. H. (2017). Kaupapa Māori theory: Indigenous transforming of education. In T. K. Hoskins & A. Jones (Eds.), Critical conversations in Kaupapa Māori (pp. 79–94). Huia

[18] Archibald, J.-A., Lee-Morgan, J. B. J., & De Santolo, J. (2019). Decolonizing research: Indigenous storywork as methodology. ZED Books.

scientific theories, such as social Darwinism[19], were employed to assert the supposed superiority of Western civilization and to justify the colonisation and assimilation of Indigenous peoples.[20]

c) Ethnographic studies conducted by Western researchers often objectified Indigenous peoples, treating them as subjects of curiosity or exotic fascination. Indigenous cultures and practices were often presented through a distorted lens, emphasising difference and emphasising stereotypes, while erasing the complexities and diversity of Indigenous peoples' lives and societies.

d) Research conducted without the meaningful participation or consent of Indigenous communities has contributed to the loss of self-determination. Indigenous peoples' knowledge, customs, and practices were often devalued, suppressed, or replaced by Euro-Western systems. This undermined Indigenous autonomy, eroded cultural practices, and disrupted traditional ways of life.

e) Research conducted by non-Indigenous researchers has frequently resulted in misrepresentation and erasure of Indigenous perspectives, histories, and contributions. Indigenous voices were often marginalised or excluded, and Indigenous knowledge and oral traditions were disregarded as sources of valid knowledge. This has perpetuated a distorted understanding of Indigenous peoples and their experiences.

## An Indigenous Methodology

Indigenous research methodologies challenge the dominance and traditions of Euro-Western thought that has influenced perceptions of Indigenous peoples and the conduct of research that ostracised them. Underlying Indigenous epistemologies, ontologies, and axiologies significantly shape and frame unique methodological approaches in the following manner:

1. Indigenous axiologies are critical in the creation of Indigenous research methodologies because they provide a culturally relevant and ethical framework that respects Indigenous knowledge, values, and aspirations. By incorporating these axiologies, research methodologies can better serve Indigenous communities,

[19] https://www.britannica.com/topic/social-Darwinism

[20] https://www.smithsonianmag.com/science-nature/science-bears-fingerprints-colonialism-180968709

promote self-determination, address power imbalances, and contribute to the preservation and revitalisation of Indigenous cultures.

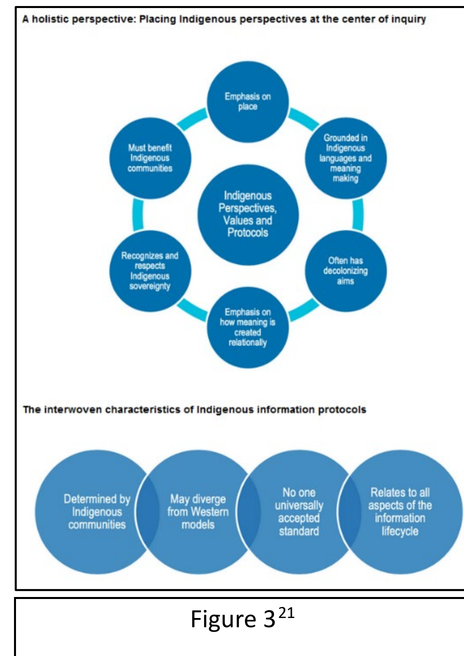


Figure 3[21]

a. Indigenous axiologies, or systems of values, prioritise community well-being, reciprocity, and intergenerational responsibility. They place importance on collective decision-making, consensus-building, and the preservation and revitalisation of Indigenous cultures and languages.
b. Indigenous axiologies often challenge individualistic and profit-driven approaches that prioritise the accumulation of wealth.
c. Indigenous research methodologies informed by axiology seek to create research that benefits the community, respects cultural protocols, and ensures equitable outcomes.

2. Indigenous epistemologies, or ways of knowing, are often holistic, relational, and embedded within the natural world and community. They emphasise the interconnectedness of all things and the importance of experiential knowledge, oral traditions, and spiritual insights. Indigenous epistemologies value the wisdom passed down through generations and recognise the significance of place, community, and storytelling. Methodologies rooted in Indigenous epistemologies prioritise experiential learning, community engagement, and a deep respect for Indigenous knowledge systems.

3. Indigenous ontologies, or ways of understanding reality, reject the dualistic view that separates humans from the natural world. Instead, they emphasise the interconnectedness and interdependence of all beings, including the land, water, animals, and spiritual dimensions. Indigenous ontologies recognise the agency and personhood of non-human entities and emphasise the importance of reciprocal relationships. Methodologies grounded in Indigenous ontologies embrace a relational worldview and seek to foster respectful relationships with the natural world, including ethical considerations for research and land stewardship.

4. Indigenous research methodologies emerge from the intersections of these foundational elements. They often involve community-based participatory approaches, intergenerational knowledge sharing, oral histories, and cultural protocols. They prioritise Indigenous self-determination, respect for Indigenous intellectual property rights, and meaningful collaboration with Indigenous

[21] Source - https://sr.ithaka.org/publications/supporting-the-research-practices-of-indigenous-studies-scholars/

communities throughout the research process.

5. Indigenous methodologies also value the integration of Indigenous and Western knowledge systems when appropriate, while ensuring that Indigenous ways of knowing are respected and given equal weight.

By centring Indigenous epistemologies, ontologies, and axiologies, Indigenous research methodologies offer an alternative to Euro-Western approaches. They provide a framework for conducting research that acknowledges and respects Indigenous knowledge systems, addresses power imbalances, and supports the self-determination and well-being of Indigenous communities.

The silencing of Indigenous ways of knowing within Western scientific conventions has occurred due to the positional superiority[22] and dominance of Western knowledge systems. This negation and ignoring of Indigenous knowledge and perspectives are deeply rooted in the historical and ongoing impacts of colonisation.

Western scientific conventions have often been based on Eurocentric biases that prioritise Western knowledge systems as the normative standard. This has resulted in the devaluation and marginalisation of Indigenous knowledge, which does not fit within the Euro-Western framework. Epistemicide refers to the deliberate erasure, suppression, or devaluation of non-Western knowledge systems, including Indigenous knowledge, perpetuating a hierarchy of knowledge.[23]

The colonisation process involved the imposition of European systems of governance, education, and knowledge production on Indigenous peoples. This resulted in the marginalisation of Indigenous knowledge and perspectives, as well as the erasure of Indigenous languages, cultural practices, and belief systems. Power imbalances between colonisers and Indigenous communities further perpetuated the silencing of Indigenous ways of knowing.

Western scientific conventions often prioritise objectivity and positivism[24], emphasising empirical observation and measurable outcomes. Indigenous knowledge, which may be based on relational and holistic understandings of the world, may not align with these conventions. As a result, Indigenous knowledge has been disregarded or labelled as subjective, anecdotal, or unscientific, further silencing Indigenous perspectives.
The underrepresentation of Indigenous researchers, scholars, and practitioners within Western scientific institutions and conventions contributes to the silencing of Indigenous knowledge. Limited representation leads to a lack of diverse perspectives and experiences, perpetuating the dominant Western narrative and side-lining Indigenous voices.

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[22] Smith, L. T. (2012). Decolonizing methodologies: Research and indigenous peoples (2nd ed.). Zed Books

[23] https://www.iwgia.org/en/news/3914-epistemic-violence-against-indigenous-peoples.html

[24] https://tourism.binus.ac.id/2020/12/14/positivism-and-the-key-characteristics/

The impacts of colonisation disrupted intergenerational knowledge transmission within Indigenous communities. The loss of cultural practices, suppression of languages, forced assimilation, and the displacement of Indigenous peoples from their lands all contributed to the erosion of Indigenous knowledge systems.

To address the silencing of Indigenous knowledge, efforts must be made to challenge and dismantle the hegemony of Western scientific conventions. This involves decolonising research methodologies[25], recognising the validity and value of Indigenous knowledge, fostering collaboration and knowledge exchange between Indigenous and Western systems[26], and creating spaces that prioritise Indigenous self-determination and inclusion. By centring Indigenous voices, knowledge, and perspectives, the silencing can be confronted, and a more inclusive and equitable approach to knowledge production can be fostered.

The challenges raised by Indigenous peoples globally regarding the centrality and dominance of Euro-Western research methodologies have led to a growing recognition of the importance of restoring and privileging Indigenous ways of knowing within science research methodologies.[27] [28] This recognition is bringing about changes in science research methodologies in several ways.

There is an increasing emphasis on collaborative research partnerships that involve Indigenous communities as active participants and knowledge co-creators. This approach recognises the expertise, perspectives, and priorities of Indigenous peoples, moving away from extractive research practices that have historically disregarded Indigenous knowledge. Indigenous communities are now being engaged in the research process from the outset, contributing their knowledge and guiding the research questions and methodologies.

Indigenous research frameworks and methodologies are being developed and integrated into scientific research practices. These frameworks respect and value Indigenous ways of knowing, incorporating Indigenous ontologies, epistemologies, and axiologies. They provide guidance for conducting research that aligns with Indigenous cultural protocols, ethics, and values, resulting in more meaningful and contextually relevant research outcomes.

Science research methodologies are increasingly incorporating ethical considerations and protocols that prioritise the rights and well-being of Indigenous communities. This includes obtaining free, prior, and informed consent, respecting cultural protocols and intellectual property rights, ensuring community ownership of data, and promoting equitable benefit-sharing. Researchers are recognising the importance of building trust, fostering long-term relationships, and engaging in ongoing dialogue with Indigenous communities.

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[25] https://www.rnz.co.nz/news/te-manu-korihi/447898/university-academics-claim-matauranga-Māori-not-science-sparks-controversy

[26] Battiste, M. (Ed). (2000). Reclaiming Indigenous voice and vision. UBC Press.

[27] Cram, F. (2017). Kaupapa Māori Health Research. In P. Liamputtong (Ed.), Handbook of Research Methods in Health Social Sciences (pp. 1–19). Springer. https://doi.org/10.1007/978-981-10-2779-6_31-1

[28] Pidgeon, M. (2018). Moving between theory and practice within an Indigenous research paradigm. Qualitative Research, 19(4), 418–436. http://journals.sagepub.com/doi/abs/10.1177/1468794118781380

## Bridging the Gap

There is a growing recognition of the need to bridge Indigenous knowledge systems and Western scientific knowledge in a mutually respectful and reciprocal manner. Transdisciplinary approaches are being embraced to facilitate the integration of diverse knowledge systems and methodologies. This allows for a more holistic understanding of complex issues and the development of more inclusive and culturally responsive solutions.

Indigenous advocacy and activism have prompted institutional changes and policy reforms within research institutions and funding agencies. These changes involve revisiting research evaluation criteria, funding priorities, and recognition of different forms of knowledge. Efforts are being made to promote diversity, inclusion, and equity within research environments and to create spaces that value and support Indigenous researchers and Indigenous-led research initiatives.

By restoring and privileging Indigenous ways of knowing within science research methodologies, the field is evolving towards a more inclusive, culturally sensitive, and socially just approach. This shift acknowledges the value and validity of Indigenous knowledge, enhances the relevance and applicability of research, and supports the self-determination and well-being of Indigenous communities. A lot of 'scientific' research fails to contextualise historical and contemporary events that determine Indigenous realities and experiences. A colonialist approach to research involves navigating a tension between Indigenous stories told without Indigenous peoples' involvement and not acknowledging Indigenous people at all[29]. Either way, authentic Indigenous voices are silenced, perpetuated by a lack of accountability.

The reliance on individualized, deficit-based, and victim-blaming approaches produced by positivist research can have significant implications for the credibility of science overall, particularly when it comes to the portrayal of Indigenous peoples.

When research predominantly focuses on highlighting deficits, challenges, and negative aspects of Indigenous communities, it provides a biased and incomplete representation. This narrow perspective perpetuates stereotypes and fails to capture the full complexity and diversity of Indigenous peoples' experiences, knowledge, and contributions. The credibility of science is compromised when it relies on incomplete or skewed portrayals that reinforce negative narratives.

Deficit-based research often reinforces existing power imbalances between the dominant society and Indigenous communities. By framing Indigenous peoples as victims or deficient, it places the blame on them rather than recognising historical and structural injustices. This approach absolves the dominant society of responsibility and fails to address systemic issues

[29]Todd, Z. (2016). An Indigenous feminist's take on the ontological turn: 'Ontology' is just another word for colonialism. Journal of Historical Sociology, 29(1), 4–22. https://doi.org/https://doi.org/10.1111/johs.12124

such as colonisation, marginalisation, and ongoing inequalities. The credibility of science suffers when it fails to critically examine power dynamics and the structural factors influencing the well-being of Indigenous peoples.

## Transcultural Research Paradigms

By adopting more inclusive, transformative and transcultural research paradigms, researchers can better understand and address the complex intergenerational effects of colonisation and contribute to efforts to rectify the ongoing systemic colonisation abuse experienced by Indigenous peoples.

The adoption of a transcultural research paradigm can advance both Western and indigenous research efficacy simultaneously by promoting cross-cultural understanding, fostering collaboration, and integrating diverse knowledge systems. Such an advanced paradigm can benefit both Western and indigenous research.

Transcultural research encourages researchers to engage with different cultural perspectives, beliefs, and practices. By doing so, it enhances mutual understanding between Western and indigenous researchers, leading to more respectful and ethical collaborations. This understanding helps overcome biases, stereotypes, and assumptions, ultimately leading to more accurate and meaningful research outcomes.

A transcultural research paradigm is Treaty based and it emphasises collaboration and partnership between Western and indigenous researchers. It recognises the value of indigenous knowledge systems, which often hold unique insights and wisdom that can contribute to the research process. Collaboration allows for the exchange of ideas, methodologies, and approaches, resulting in richer and more comprehensive research outcomes.

Adopting a transcultural research paradigm acknowledges the importance of integrating diverse knowledge systems. Indigenous research methodologies and epistemologies are recognised as valid and valuable, contributing to a more holistic understanding of complex issues and promoting a more inclusive research environment.

A transcultural research paradigm encourages reflexivity, self-awareness, and sensitivity to these issues. By acknowledging and addressing biases, researchers can develop more culturally appropriate and contextually sensitive research designs, methodologies, and analysis.
It recognises the importance of research that is community-driven, benefits the community, and addresses their priorities and concerns. This paradigm facilitates indigenous self-determination, promoting research that supports community development, cultural revitalisation, and social justice.

Overall, the adoption of a transcultural research paradigm allows for a more equitable and inclusive research environment, where diverse perspectives and knowledge systems are

valued and integrated. It recognises the contributions of both Western and indigenous research approaches, leading to enhanced research efficacy and more meaningful outcomes for all involved parties.

## Decolonisation

Decolonisation is a fundamental plank in the development of transcultural research.

It is a multifaceted process that seeks to address the historical and ongoing impacts of colonisation and dismantle colonial systems of power, oppression, and cultural domination. It involves challenging and transforming the structures, institutions, and narratives that uphold colonial ideologies and practices. Decolonisation is not only a political or social movement but also a framework for reimagining and revitalising Indigenous knowledge, culture, self-determination, and sovereignty.

Decolonisation involves challenging power imbalances and creating space for Indigenous self-determination. It aims to shift the power dynamics in theory and research by giving agency and control to Indigenous peoples over the production and application of knowledge. This allows for the centring of Indigenous concerns and worldviews, ensuring that research aligns with the needs, aspirations, and priorities of Indigenous communities.

It recognises the importance of Indigenous knowledge systems and revitalises their place within theory and research. It encourages the resurgence of Indigenous ways of knowing[30], including oral traditions, storytelling, spirituality, and intergenerational knowledge transmission. By centring Indigenous knowledge systems, theory and research can reflect the unique perspectives, values, and epistemologies of Indigenous peoples.

Decolonisation promotes collaborative and community-based research approaches that involve meaningful engagement with Indigenous communities. It recognises that Indigenous peoples are experts in their own experiences, cultures, and contexts. Theory and research conducted from Indigenous perspectives prioritise community involvement, cultural protocols, and reciprocal relationships, ensuring that the research serves Indigenous purposes and contributes to Indigenous self-determination.[31]

In the context of theory and research, decolonisation assists in centring Indigenous concerns and worldviews by challenging the dominance of Western perspectives and methodologies. It recognises the importance of Indigenous knowledge systems, perspectives, and priorities and aims to create space for Indigenous voices and self-representation.

It also challenges existing theories, methodologies, and frameworks that may be rooted in colonial ideologies. It encourages the reinterpretation and reframing of theories from Indigenous perspectives, incorporating Indigenous ontologies, epistemologies, and

[30] Chilisa, B. (2012). Indigenous research methodologies. Sage.

[31] Simmonds, N. (2011). Mana wahine: Decolonising politics. Women’s Studies Journal, 25(2), 11–25. http://www. wsanz.org.nz/journal/docs/WSJNZ252Simmonds11-25.pdf

axiologies. This process allows for the creation of new theories and knowledge that are grounded in Indigenous worldviews and experiences.

And it emphasises the ethical responsibilities of researchers to engage in research that is respectful, reciprocal, and beneficial to Indigenous communities. It involves recognising and addressing the historical and ongoing harms caused by research and ensuring that research is conducted in ways that promote cultural safety, informed consent, and equitable benefit-sharing.

Overall - Decolonisation contributes to the reclamation, revitalisation, and empowerment of Indigenous knowledge systems and paves the way for transformative and meaningful research that supports Indigenous self-determination and well-being.

## Indigenous research paradigms

An Indigenous research paradigm is contingent on the relationships established and maintained between the researchers and the Indigenous community that ensure the research outcomes have relevance, meaning, and practical application for the community that can lead to transformation.[8]

Utilising a paradigm that privileges Indigenous epistemologies and ontologies enables culturally relevant engagement and approaches for analysing data and interpreting the findings that reflect participants' realities better, which then produces evidence of greater relevance and meaning to inform transformational policy and practice.

An Indigenous paradigm that enables the telling of Indigenous peoples' stories in a way that reflects their realities can advance Western science. By incorporating an Indigenous paradigm that values Indigenous peoples' stories and realities, Western science can benefit from diverse perspectives, alternative ways of knowing, and ethical considerations. This integration can lead to a more inclusive, ethical, and comprehensive scientific practice that better serves both Indigenous communities and the advancement of knowledge.

By incorporating Indigenous perspectives and knowledge systems into Western science, a more diverse range of epistemologies is embraced. This can lead to a broader understanding of complex issues, as different ways of knowing and interpreting data can provide alternative insights and perspectives.

**Cultural preservation and revitalisation**: Indigenous paradigms often emphasise the importance of cultural preservation and revitalisation. By integrating Indigenous knowledge and storytelling practices into Western science, there is an opportunity to preserve and promote Indigenous cultures, languages, and traditions. This can lead to a more inclusive and diverse scientific community that values and respects Indigenous ways of knowing.

Indigenous paradigms often emphasise holistic and interconnected ways of understanding the world. They recognise the interdependence of human beings, nature, and the spiritual

realm. By incorporating these perspectives into Western scientific research, there is an opportunity to move away from reductionist approaches that isolate variables and focus on isolated parts. Instead, a more holistic approach can provide a comprehensive understanding of complex phenomena.

And - Indigenous paradigms typically prioritise ethical considerations, including respect for community, reciprocity, and sustainability. By integrating these values into Western scientific research, a greater emphasis is placed on research that respects the rights, values, and needs of Indigenous communities. This promotes ethical conduct, fosters collaboration, and ensures that research benefits rather than harms the communities involved.

## Theory

Kaupapa Māori theory offers a 'by Māori, for Māori, with Māori" approach to research, which puts Māori interests at the centre. It also challenges 'accepted' ways of 'knowing, doing and understanding' Māori, in order to make a positive difference.[8] Embedding in Mātauranga and adopting a kaupapa Māori epistemology can greatly facilitate the distillation of meaning from indigenous learning within a Māori worldview.

Māori knowledge is deeply linked to cultural values and practices. Cultural values such as whanaungatanga, manaakitanga, and kaitiakitanga inform the ways in which knowledge is obtained, shared, and applied within Māori communities. Cultural practices, such as waiata, carvings in wharenui, and mōteatea, serve as mediums for transmitting and preserving knowledge. They carry embedded meanings, symbolism, and ancestral wisdom that contribute to the distillation of meaning from indigenous learning. Māori knowledge seeks to explore the relationships and interconnectedness between different elements, leading to a deeper understanding of the underlying meanings and implications.

By embedding in Mātauranga and embracing a kaupapa Māori epistemology, researchers and learners can engage with Māori knowledge systems in a culturally responsive and respectful manner. It recognises the significance of cultural values, practices, and oral transmission of knowledge in distilling meaning and understanding from indigenous learning.

## Ethnographic Research

These programs can be structured in various ways to protect the rights and identities of indigenous peoples, including the following:

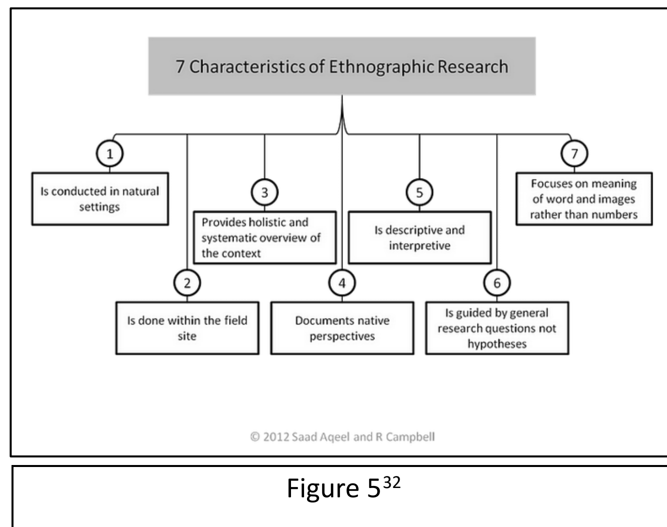



Figure 5[32]

1. Establishing clear research objectives and methodologies: Researchers need to define the research objectives and methodology in consultation with indigenous communities to ensure that they align with the community's values, beliefs, and priorities. This requires identifying the cultural protocols and ethical considerations that inform the community's worldview, and designing research protocols that recognise these considerations.

2. Securing informed consent: Securing informed consent requires more than just obtaining the signature of participants; it involves building trust through respectful and transparent engagement with the community and ensuring that all individuals involved in the project (such as interpreters or community leaders) understand the research protocol and agree to abide by it. Indigenous communities may have their own protocols around who can provide informed consent and how consent can be provided, and it's essential to be familiar with these protocols and to follow them.

3. Prioritising confidentiality and data anonymity: Researchers need to prioritise data confidentiality and anonymity to protect the privacy and security of the individuals and communities involved in the study. This includes implementing policies that govern the use, storage, and sharing of data, as well as ensuring that data are de-identified and anonymised wherever possible.

4. Ensuring equitable participation and benefit sharing: Ethnographic research can bring significant benefits and gains for the researchers, and it is essential to ensure that the communities providing data and information benefit as well. Researchers should aim to develop benefits-sharing arrangements that acknowledge the community's contributions while ensuring that the community's interests are advanced.

5. Establishing collaborative partnerships: Ethnographic research requires the establishment of collaborative partnerships between researchers and indigenous

[32] https://medium.com/@sean_82431/ethnographic-research-is-the-key-to-really-understanding-your-customers-needs-f31e89f26b43

communities. These partnerships must provide opportunities for the community to have a say in all aspects of the research, from its design to its dissemination. They also must ensure that the community's cultural protocols and values are recognised and respected.

6. Cultural competence and sensitivity training: Researchers must be trained in cultural competence and sensitivity to work with indigenous communities. This includes developing an understanding of the community's cultural norms, expectations, and values, as well as being familiar with historical trauma and ongoing experiences of marginalisation and discrimination that indigenous communities may face.

Overall, ensuring that ethnographic research respects the rights and identity of indigenous peoples requires a conscious effort to prioritise their perspectives and values throughout the research process. This involves building trust, respecting cultural protocols, working collaboratively, and ensuring that the community benefits from the research process.

## Ethno-Research Ethics

Culturally ethical research refers to research that is conducted through an approach that is respectful and sensitive towards the culture and traditions of the participants and communities involved. It seeks to ensure that the research process is conducted with the highest level of ethics by taking into account the cultural context of the research, and ensuring that the participants, researchers, and the community are treated equitably, and that their voices and opinions are heard and respected. Ethno-research ethics refers to the ethical considerations involved in conducting research within indigenous communities.

The key elements of Ethno-research ethics are:

1. Collaboration: Research should be conducted in a collaborative manner with indigenous people.
2. Informed consent: Indigenous people should be well-informed about the research process and have the right to participate voluntarily or abstain from participating altogether.
3. Confidentiality and anonymity: The confidentiality and anonymity of indigenous participants during research should be respected.
4. Cultural sensitivity and respect: Researchers should be culturally sensitive and respectful towards indigenous people and their culture.
5. Community benefit: Research should aim to benefit the indigenous community and contribute to the betterment of the community.
6. Responsibility: Researchers need to act responsibly in terms of the research process and the dissemination and use of research findings.
7. Equity: Indigenous people should be treated equitably in terms of benefits and risks associated with the research

## Indigenous knowledge and intellectual property (IP)

This can be best legally protected internationally through a combination of legal and non-legal mechanisms, including the following:

1. International Treaties and Agreements: International treaties and agreements can provide a framework for the protection of indigenous knowledge and IP. For example, the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) recognises the right of indigenous peoples to their cultural heritage, traditional knowledge, and IP. Similarly, the Convention on Biological Diversity (CBD) recognises the importance of protecting traditional knowledge associated with the use of genetic resources.
2. National and Regional Laws: National and regional laws should be developed to specifically protect indigenous knowledge and IP. These laws could include traditional knowledge databases, designations of geographical indications, and/or trademarks that protect indigenous heritage.
3. Customary Law and Protocols: Customary law and protocols can be used to protect indigenous knowledge and IP. Because these laws are developed through consensual processes within indigenous communities, they are often an effective means of protecting traditional knowledge and IP. However, it is important to provide education and awareness-raising campaigns, so that people inside the community are sensitized to the existence, and importance of such customary laws.
4. Benefit Sharing Arrangements: Benefit sharing arrangements can allow indigenous communities to benefit from the commercialisation of their traditional knowledge and IP. These agreements should be developed through fair and equitable negotiation between the parties involved and should ensure that the indigenous community receives a fair share of the profits generated from the use of their traditional knowledge.
5. Access and Benefit-sharing (ABS) framework: Establishing functional ABS frameworks can ensure that indigenous communities are adequately consulted and compensated for the use of their traditional knowledge and IP, thereby ensuring the ethical use of these resources.

Overall, the most effective means of protecting indigenous knowledge and IP requires a combination of legal and non-legal mechanisms. This includes the development of international treaties and national laws that recognise the importance of protecting indigenous knowledge, as well as the establishment of customary laws and benefit-sharing arrangements that provide communities with a strong voice in the protection and management of their heritage.

Finally, it is important to promote education and awareness-raising campaigns to better understand the importance of indigenous knowledge and IP in sustainable development. By integrating kaupapa Māori research methodologies and practices, and indigenous IP protections [by way of signed agreements] into the TAMPPS model, project-based upskilling on ethical, transcultural and high impact research can be achieved, if Tauiwi engage in this land diversification system.

This process must be Rangatira directed.

# The 1970s Agricultural Model- A Narrative

**Background**

In order to bring two world views and two land management practices together, it is important to evaluate a case study and a critical point in time when two complementary land management systems worked in tandem.

In this narrative, that timeframe was between 1950 and 1980, before industrial farming and the profit motive changed the landscape and rural Māori communities forever.

The snapshot below captures life in a remote rural Māori community in the East Cape region where two knowledge systems and land management practices worked symbiotically to create what could in more modern times, with its multiple stressors, be considered a utopia.

## The Narrative

The year is 1975 and it is late spring, early summer, the time is 7:30am. Travelling east from Opotiki, we cross the hard edge of Raupatu, the confiscated lands, cresting a ridge on SH35, dropping into a beautiful horseshoe bay.

Loading New Zealand Lamb onto the "Rockhampton Star" (1965)[33]

The strategic decision made by Kaumātua and Kuia in the late 1800s, which resulted in the building of an Anglican church in the village, directly impacted on the confiscation of lands in this tribes domain. Confiscation of “rebel lands” stopped at the western boundary of this rohe.

Pausing at the top of the ridge before dropping down into the bay, the western point and the eastern point of the catchment and valley can be seen, with both locations being tapu and of significant cultural importance.

The eastern point shows the remnants of an impenetrable Pā site resting on the highest point of the ridge looking out to sea.

[33] https://commons.wikimedia.org/wiki/File:Loading_New_Zealand_Lamb_(1965).jpg

There is a gentle offshore breeze, typically found in the Tangaroa moon phase along this coastline and the water is crystal clear.

Driving down to the beach and on to the foreshore, piles of native driftwood are stacked by storm surges over countless years, one on top of the other, at the top of the high tide mark. Behind the driftwood and stretching out right across the foreshore, the whenua is blanketed with lupin, interspersed with coastal caprosma, Ngaio and juvenile Pohutukawa. The coastal wetlands between the foreshore margin and SH35 are fully intact with a rich biodiversity of freshwater fauna and flora.

These wetlands are ring-fenced with raupo and nesting pūkeko can be found dotted amongst the ecosystem.  In this season, the inanga are running up the river and into these wetlands, laying eggs in the wiwi grass that grows around the edges of the streams and the repo.

SH35 is the only tar sealed road in the region. A key mode of transport, especially for tamariki and rangatahi in the valley, is horses. Some horses have 3 or 4 kids on their backs, heading to the Kura. In the afternoon, after school, the horses will be tethered at the river and the air will be rich with the sound of kids laughing and splashing in the awa.

The highway traverses a stream in the middle of the valley, the water is crystal clear. Watercress stretches from either side of the stream in places, providing habitat for tuna, including the huge matriarchs that guard the river and the wetlands. Some of these tuna are preparing to migrate and their eyes are turning blue. They are 80 to 90 years of age with a single fish weighing as much as 15 to 20 kg. They are not trapped or caught for kai, and they are left to migrate.

At the end of a dirt road intersecting the highway by the stream is a corrugated iron clad cream stand. A Fergy tractor with a carry all comes down the dusty road carrying 8 full cans of cream. These have been picked up from 4 of the 6 or 7 milking sheds along the length of the road. Everyone works together in this community.

Having offloaded the full cream cans and loading the empties on to the carryall, the tractor crosses SH35 and the foreshore paddocks, heading out to the beach.

With the Maramataka’s Tangaroa moon phase in force and its gentle offshore breeze, the fishing will be good. The two-man team on the tractor, one being the uncle and the other the nephew, have their favourite fishing spot. In less than an hour, a dozen fish have been landed, being a mix of snapper and kahawai. The fishing technique is simple, a hand line with a heavy sinker is laid out across the stone beach, the sinker is whirled around and around until it reaches sufficient momentum to carry the hand line and the baited hooks 40 to 60 meters offshore. There is a healthy competition between the uncle and nephew to see who can catch the first fish, which is always returned to the sea, and the biggest fish, which is also often returned to the sea if it is a breeder.

As the old tractor heads back up the gravel road, empty cream cans are dropped at various cowsheds along with a couple of fish for the elders at each of the whare.  This provisioning

of the elders underpins the Whānaungatanga and Manaakitanga within the valley. A common whakapapa binds the families along the entire length of the road.

Looking up to the back country, native forest ridges form a natural boundary to the catchment. Beyond that ngahere is a sheep and beef station with stock grazing on the tops and with a rich native biodiversity in the gullies.

The main river in the valley runs crystal clear, driftwood is scattered along the edge of the river including some large trees which have been washed down in bigger floods from the mountains in the distance. Some are valuable, such as totara. On inspection, some have been claimed by local whānau with the cutting of initials into the trunk using an axe. Once claimed, the user right of that whānau to that rakau is respected by all. Typically, these resources are shared.

The farming practices used in the valley are a mixture of traditional Mātauranga Māori and contemporary European practices. Arriving at the first farm and whare up the road, this dairy farm is an exemplar of the integration of two land use models or practices. The Mātauranga Māori and Mōhiotanga retained by the matriarch living on this farm provides the foundation for the model. This knowledge stretches back 35 generations.

The kawa, the tikanga and the rahui practices maintained by her and passed to her children are indelible. They create an indigenous korowai which is laid across Papatūānuku ensuring respect and sustainability in the utilisation of the whenua. All land use practices must recognise and enhance the Mauri of the whenua - a reverence for Papatūānuku herself.

Her husband is of German descent. Initially he travelled into the valley with his brothers, who were contracted to clear some of the back country to establish the beef and sheep stations across the tops of the ridges. The central European land management practices and skillsets he brings into the mix are complementary to the Mātauranga Māori. The whare they live in with their tamariki and the cowshed, haybarn and all other buildings are hand built using pit-sawn native timber that is hauled from the back country using a well-trained 6 bullock team.

Nothing is wasted. 6 x 1 tōtara is used to build sluices and a viaduct system from the milking shed to the pigsty. When the skim milk is released from the tōtara holding tank after milking, it is evenly portion controlled down into 4 pens situated below the shed. Some of the skim milk is held back to hydrate the dry maize stored in the pataka at the milking shed which is fed once a day as a rich broth to the pigs. The whole system runs like clockwork.

To the east of the whenua is an orchard comprising 12 different varieties of heritage fruit. Along the back fence in front of the harakeke wind break is a tōtara trellised system growing table grapes and Chinese gooseberries (kiwifruit). The kiwifruit was planted in 1932. The families' chicken coop is located inside the orchard. Citrus trees are planted within the enclosure. The chicken manure is ideal for citrus and the trees crop heavily.

A traditional pātaka has been built under a huge loquat tree close to the whare. The hand cut tōtara bins, racks and shelves hold the last of the previous seasons' riwai, kūmara and

pumpkin. They are carefully layered using dry bracken fern which provides temperature control and ventilation. Corn and maize husks hang from the roof which have been set aside as seed stock for the coming season.

The home garden runs all year round, providing an overabundance of māra kai, that is shared with other families. This whānau is completely self-sufficient except for the need to buy flour because the entire farm is less than 45 acres, so growing wheat for flour is, therefore, not viable. However, sugar-beets provide all of the sugar needs of the whānau throughout the year.

The dairy herd comprises 35 animals and they are all jersey cows. A jersey bull services the herd, and this bull is shared amongst four whānau in close proximity up the road.

In the walkthrough milking shed there is a strict social order with each cow having worked out its pecking order. Every cow has its own name, the bail it goes into and the sequence the herd moves through the shed. Any attempt to disrupt this natural order will result in the herd milling around in the yard and complete chaos. It will take the farmer more than an hour with a bucket and a broom to clean up the resulting mess in the yard.

The effluent from the shed is carefully channelled down into a holding pond where the sludge is utilised as an organic fertiliser. Seaweed gathered from the beach is mixed with the effluent for use across the farm, in the orchards and in the home garden. The herd produces cream, butter and cheese for the whānau.

All of the posts and battens across the entire farm are hand split tōtara. When this is in short supply, the heartwood of rewarewa is used for battens as is pūriri. Weed control in the pasture is manual. In early summer, each paddock is inspected, and the weeds are killed using a simple technique where ragwort, thistles and other invasive weed species are bruised using the heel of a hobnailed boot and sprinkled with a liberal dose of sodium. One paddock per day is treated and weed control over the whole farm is completed within a week.

Culverts in the drains and streams across the farm are made from mānuka which has had its bark removed. These mānuka bundles are bound together using pirita / supplejack. Once immersed in the stream, they never rot.

These culverts allow the elver / baby eels to run through the mānuka bundles but the adult eels are constrained. This creates a Pā Tuna in the stream or repo. When the matriarch Tuna leave on their migration run, they choose a dark, wet night during the new moon phase, sliding across the dark wet grass around the edge of the culverts. The farm cat is known for harvesting one or two, which is left at the back door of the whare on cold full moon nights.

Annually, crops such as kūmara, pumpkin, corn, maize, peas, beans etc are grown on the fertile river flats close to the main river. Ploughing is done by horse as is the weeding and moulding up of kūmara and riwai. The entire production system is run using organic fertiliser and in accordance with the Maramataka.

As a subsistence farming operation, food miles do not exist. Once a week there is a shop truck that travels from town along SH35 and up each of the dirt roads intersecting the highway. The need to travel to town for food provisions is, therefore, negated.

Manaakitanga and whānaungatanga underpin provisioning in the valley provided a strong cultural and social cohesion. When a cattle beast is killed for kai, three or four whānau come together to process and share the meat. Much of the meat is dried, salted or preserved. Noone in the valley has a deep freeze. A strong social order and whānaungatanga underpins not only the social order but also the distribution and use of labour in the valley. All resources are shared.

During haymaking, a band of fit rangatahi made up from 4 to 5 whānau moves from one farm to the next, making and storing traditional haybales. At smoko and at lunchtime, the aunties and the Kuia lay on a huge spread, including rēwana bread, smoked kahawai, fresh baked scones, homemade butter, homemade plum jam and fresh cream. There is always a guitar somewhere in the group, singing is an essential element of every meal. The social order and the camaraderie developed during hay making spills over into the day to day lives of the rangatahi in the valley.

Hay baling – a family affair.[34]

On New Year's Eve, the rangatahi begin traversing the dirt road at SH35 after dusk, visiting every whānau and whare until they reach the end of the road. One crate of flagon beer is provided by each whānau up the valley. The rangatahi can be heard playing guitars and singing as they walk from one house to the next. The strong bonds established in this manner underpin the sports teams in the tribe. The "Pā wars"- inter-tribal sports competitions put these bonds to test.

On the weekends, or when special events such as tangi require, the rangatahi head for the hills on horseback with their pig dogs. The low-lying hill country around the head of the valley is set aside as run offs for winter dairy grazing and these areas are surrounded by ngahere / native bush. And wild pigs.

Hunting, fishing and gathering of kaimoana are all an integral part of day to day lives of rangatahi in the region which is strictly guided by the Maramataka. The back country sheep station is a fertile hunting ground. Protein derived therefrom is primarily pork.

In the 1970s, there were very few deer, but wild goats were increasing in number. These were harvested for dog food. In 1965, there were no possums whatsoever in the rohe.

By 1975 they had begun to emerge. The native flora and fauna were a rich tapestry of biodiversity. Longtail and short tailed bats were seen flocking out of the ngahere, coming

[34] http://api.digitalnz.org/records/175378/source

down the river in the evenings. Flocks of Kākā would also come down, shredding the old rewarewa trees in search of huhu grubs. In the ngahere, the dawn chorus was deafening. The kereru population was both large and sustainable in the back country.

The last recorded sighting of a Huia in New Zealand was in 1935 in the headwaters of this river system.

Whio duck lived throughout the ecosystem with one breeding pair, on average, being located every 1.5kms up the river. Pepeketua, (Hochstetter frogs) which are icon indicators of water purity, were prevalent throughout the entire river system. The whole catchment operated as a functioning and integrated biodiverse native ecosystem, and the strong kinship connections between tangata and the native flora and fauna was still recognised and revered.

The use of rāhui as a sustainable management tool was still prevalent. The consequences of breaching a rāhui were severe. In certain areas such as the kereru birding grounds, touchstones, which held and maintained the Mauri of those areas, were strategically placed. They were guarded by the mokomoko / gecko lizards.

Icon indicators such as Whio duck, torrent fish, Hochstetter frogs, native bats and tuna were all prevalent and their roles understood. 35 generations of Mātauranga Māori of tikanga and kawa created a natural symbiosis within the rohe, guided by the maramataka to sustain inter-generational practices, all managed by the Rangatira and the Matriarchs.

Pasture management was precise. Haymaking was carefully managed to ensure a variety of pasture species seeds were captured in the bales, this supported pasture diversity. The bales were manually spread and stock management [trampling] ensured a high strike rate. Rongoā Rākau was used for animal remedies. This was a crossover from the use of Rongoā in human conditions to the use of key plant species for things such as parasite control.

This 1970s model was not driven by a profit motive, it was instead driven by well-being and there was a good balance between the work that was required, whanau time, and time within the community. Social and cultural cohesion was tightly bound.

Notwithstanding a whole generation of educational assimilation where children were beaten or punished for speaking te reo, the language within the elders was still strong. They were all natural Māori speakers. The impacts of this colonisation process became more and more evident in the 1990s. That generation of tamariki grew up within educational colonisation and they were indoctrinated with false values and the "pākehā dream".

It was the prior generation, those born after the 1930's depression, who proposed to their children that Te Reo was a lost language and the loss of that language equated directly to a loss of cultural identity. The colonial oppression and assimilation policies were pervasive and effective.

By the mid-1980s, to the early 1990's a massive shift had occurred within the valley. Rangatahi believed that their future lay in the cities. This came as a result of policies and

interventions deliberately established by colonial politicians and policymakers to boost the number of low skilled and low paid workers in areas such as South Auckland. This drove down the cost of labour in the factories and trades.

Within the valley, consolidation of what was previously a rich tapestry of more than 12 cowsheds, each supporting a family, began to occur. With young, disillusioned youth heading to the cities, there was no one left to take over these small unique dairy units. Within 10 years, all of those family enterprises had consolidated into one dairy farm which dominated the catchment, it produced whole milk. A commodity. As the elders passed away the community became more and more vanilla.

Industrial farming, intensification and further commodification followed. This had massive impacts on social structures, on the whenua, on whanaungatanga, on the ecological health and biodiversity of the valley and on education and employment. This structured colonisation process introduced the profit motive which saw the destruction of social, environmental and cultural values, in favour of revenue. Unemployment entered the rohe for the first time ever.

In the 1980s, huge pressure was placed on sheep farmers throughout the whole of the East Cape region to convert to forestry. Another external Govt intervention. This saw massive areas of native bush cut and burned, with pollution and sediment flooding the rivers and impacting on whole freshwater ecosystems and the kaimoana beds. Fast forward to 2020 and the harvesting of those forests is creating a second wave of ecological disaster. The vast majority of revenue generated from these forests is exported out of the community while the negative social, ecological and cultural impacts remain within.

Whenua previously used to sustain families through small dairy and farming enterprises have been converted to maize. Kiwifruit is beginning to have an impact in the rohe which binds whānau and whenua trusts into a low revenue land use model controlled by existing horticultural barons. Tangata whenua cannot access or afford the license fees controlled by Zespri [and Plant & Food].

The pollution and sediment in the streams, the rivers and across the kaimoana beds within the rohe is unprecedented. Herbicides, nitrates, phosphates and ecoli are all prevalent within the waterways and the few remaining wetlands that have not been converted to pasture or maize. Industrial farming at its "best."

The bats, the Kākā, the Whio duck, have all disappeared. Feral animal damage is eroding and destroying the back country ngahere with goats, in particular, at plague proportions. Huge declines in abundance of kina, pāua and kōura are evident in the bay and the critical marine benthic assemblages needed to begin and sustain the whole marine food chain are smothered in sediment. The gannet colony at the western point of the bay is gone. There are few, if any, tern found on the beach and none of them are nesting. The possum population is out of control and the annual inanga migration up the river has collapsed.

## The Model

There is a saying within Māoridom that the pathways of the future are defined by the footsteps of the past. The mixed social / cultural enterprise model that sustained an entire generation within the rohe in the 1970s has within it all of the key components of future primary production success, and sustainability.

This 1970s model incorporated all of the current buzzwords and terms emerging within the primary production sector at present such as regen agriculture, circular bio-economies and lifecycle assessments. Added to those were a rich tapestry of social, cultural and ecological values that drove whenua Māori land use practice.

The 1970s model operated well within all of the nine planetary boundaries. It recognised, captured and valued cultural and social enterprise skills and societal cohesion, creating a mosaic of dynamic and integrated land use enterprises which supported the entire tribe.

The leadership hierarchy within the rohe maintained the vision and sustainable growth because SECE values underpinned and guided the Model. SECE values equate directly to wellbeing.

## Supposition

Succession planning is a critical component to developing the change we need within the Māori agricultural sector [and the whole primary production sector] at present. This will require a truth and reconciliation process to be engaged. Empowering rangatahi as change agents will ensure we future proof these solutions.

Clearly - decision making needs to change and the development of social, environmental, cultural, and economic metrics, [SECE] which can support a new decision process, would be advantageous.

In recognising the tensions within current political and policy processes, including the Māori land court with its control over Māori land, these historic and political constraints need to be challenged, where they are detrimental to future Māori development and mana motuhake. They are dominant culture, white privileged and insidious constructs.

By supporting rangatahi via succession planning, strong future leadership can be developed. This will need to be part of a decolonising process.

At present many of the decisions that are made on and for Māori are made by external farm advisors or consultants. Few of these are Māori. Many are shareholders in chemical fertiliser companies. And they have a network of others who collectively control whenua Māori via often dysfunctional management committees. The same can be said for science research. It

controls whenua development but few of the CRI and Universities have Māori researchers therein, and even less have indigenous values.  Science has long been a tool of colonisation and control.  It has fuelled the demise of traditional land use practices, spurring industrial farming and the profit driven motives of Pakeha who dominate the agriculture sector and GDP growth, primarily on stolen land.

There is therefore a need to build internal capacity within Māori corporations and land Trusts to ensure that the advice given fits within Te Ao Māori principles and practices and that they meet the needs and aspirations of landowners.

These measures will support a drive to a "back to the future" Māori land development model.

**Recommendations**

In order to achieve the changes required so that a just transition can occur in a climate challenged society, key policy settings need to be changed. The development of business models based on SEC E values is critical to that success. The profit driven models of the past have not served Māori well [as they were not designed to] and they are extractive and thus force us outside of our planetary boundaries. They are thus good for no one.

Drawing on intergenerational knowledge and practices [such as the Maramataka] will allow landowners and farm managers to better predict climate change and related impacts. Equally, research and understanding on traditional Māori resilience can provide critical lessons from the past when looking at adaptation strategies in the future.

Information drawn from the above can feed into the climate policy setting space to ensure the promised "just transition" detailed in the Paris accord is based on real life experiences. At present, climate change is fuelling further inequality and deprivation within rural Māori communities.

There is also a need to add further sophistication to the ETS scheme where the inclusion of native biodiversity carbon economies is woefully inadequate. Breaking the strangle hold production forestry has on the current ETS regime is critical.

Through the adoption of measures such as those articulated above, a unique and culturally based provenance story and indigenous brand can be developed. It is realistic to expect that this will attract a premium from discerning customers. This can address a key element missing in the "transition debate."

That component missing within land diversification and the transition modelling is investment. Through the refinement and use of practices such as the Maramataka, and traditional indigenous values, a unique position can be created for primary produce derived from farming operations which utilize these indigenous principles and practices. This could form a valuable foundation for a new Māori economy, which is based on the capture and use of traditional knowledge drawn down from inter-generational connections.

No matter how we measure the values this creates; the net benefit to the land, the rivers, the sea and the people cannot be overstated.

## Western Agricultural Systems in Aotearoa-New Zealand

This section forms a critical component of the Kia Whakatōmuri te Haere Whakamua paper, evaluating specifically what has driven the development of the western agricultural systems in Aotearoa-New Zealand that Māori have adopted.

In particular, what influences have led those system to the present point, at which they are considered to be failing to meet sustainability goals (most especially Māori cultural goals). It examines, from within the western agricultural paradigm, how the agricultural science community has itself examined past mistakes and came up with solutions to ensure a more sustainable future for agriculture worldwide.

The Development of Western Agriculture section summarises agricultural development in NZ, the key influential factors driving its evolution. The "Novel approaches to farming section reviews different approaches to farming which propose solutions for modern systems, from a western science point of view.

The Design Principles for Trans-Cultural Farms Sections Integrated Planning Process section address the relevance of these solutions and the principles behind them in comparison with Te Ao Māori values and practices and propose design principles for trans-cultural farm systems and an integrated planning process to work through with landowners.

Step one in the inquiry is assessing what influences have led western agricultural systems to the present point, at which they are considered to be failing to meet sustainability goals (and most especially Māori cultural ambitions). Furthermore, recognising that from within the western agricultural paradigm the agricultural science community has itself examined some of these failings, it is of relevance to consider their own approaches to remediating past mistakes and ensuring a more sustainable future for agriculture worldwide.

**Development of western agriculture in New Zealand**

The arrival of European explorers and early colonists in New Zealand occurred during the second agricultural revolution in Europe, which involved the reorganisation of farmland from the 17th century onwards (1800-1900) following the end of feudalism in Europe.

Feudalism was a socio-economic system that dominated medieval Europe from the 5th to the 12th centuries[35]. It was characterised by a hierarchical structure where land was held by lords and granted to vassals in exchange for military service and other obligations. The key components of feudalism included:

[35] https://www.britannica.com/money/topic/feudalism

**Lords and Vassals**: At the top of the feudal pyramid were the lords, who owned large estates of land. They granted portions of their land to vassals, who swore allegiance to the lord and provided military service and other forms of labour in return.

**Fiefs**[36]: The land granted to vassals by lords was known as a fief. It was typically an agricultural estate that included farmland, forests, villages, and other resources. The vassals were responsible for managing and cultivating the land.

**Manorialism**[37]: Feudalism was closely associated with manorialism, which was the organisation of the agricultural economy on the manors or estates. Manors were largely self-sufficient units where serfs, who were tied to the land, worked under the authority of the lord and vassals.

**Serfs**: Serfs were the lowest social class in feudal society. They were bound to the land and were obligated to provide labour, pay rents, and render various services to the lord in exchange for protection and the right to live on the manor. Serfs worked the land and were subject to the control and jurisdiction of the lord.

The impact of feudalism on farming practices was significant. The agricultural system was primarily focused on subsistence farming, where the primary goal was to produce enough food to sustain the local population. The manorial system provided a framework for organising agricultural production, and the serfs, who formed the bulk of the workforce, were responsible for carrying out the labour-intensive tasks on the land.

The farming practices under feudalism were largely traditional and based on techniques that had been inherited from earlier periods. The land was typically divided into small strips, and a system of crop rotation, known as the three-field system, was commonly employed. This system involved dividing the land into three parts: one for planting winter crops, one for planting spring crops, and one left fallow to allow the soil to recover[38]. This rotation helped maintain soil fertility and maximise agricultural output.

However, the feudal system also imposed certain limitations on agricultural productivity. The rights and obligations of the serfs meant that they had limited control over their own labour and resources. They were required to provide labour for the lord, which often took away time and resources from their own farming efforts. The serfs were also subject to various fees and rents, which further reduced their ability to invest in improving agricultural techniques or expand their output.

Overall, while feudalism provided a framework for organising agricultural production, it also placed constraints on the development of farming practices. The system's focus on hierarchy, obligations, and limited individual freedoms hindered innovation and progress in agricultural techniques. It was not until the decline of feudalism and the emergence of new

[36] https://www.britannica.com/topic/fief

[37] https://www.britannica.com/money/topic/manorialism

[38] https://www.britannica.com/topic/three-field-system

economic systems that farming practices began to undergo significant transformations in Europe.

The 2nd revolution coincided with the Industrial Revolution[39] and was characterised by mechanisation, the development of new inventions and technologies to make agriculture less labour intensive (e.g., tractor, seed drill), improved crop yields through selection and the emergence of synthetic fertilisers (Lawes, mid-1800s), increased use of livestock and using a greater diversity of crops.

**The Industrial Revolution**

The Industrial Revolution, which began in the late 18th century in Britain and later spread to other parts of Europe, had a profound impact on agriculture and the feudal system that preceded it.

In summary, the Industrial Revolution revolutionised agriculture by introducing new technologies and increasing productivity. It also led to the decline of feudalism, as traditional agricultural practices and the social hierarchy associated with it became less economically viable. The movement of people to urban areas and the shift in land ownership further eroded the feudal system, making way for new economic and social structures.

Some keyways in which the Industrial Revolution influenced these aspects were:

**Agricultural Productivity[40]**: The Industrial Revolution brought significant technological advancements, such as the mechanisation of agriculture. The introduction of new farming machinery, such as the seed drill and the threshing machine, increased productivity and efficiency in agricultural practices. This led to higher crop yields and allowed for the cultivation of larger areas of land. The use of steam power in agriculture, particularly in the form of steam-powered tractors and irrigation systems, further accelerated agricultural productivity.

**Enclosure Movement[41]**: The Enclosure Movement, which gained momentum during the Industrial Revolution, involved the consolidation of small, scattered strips of land into larger, enclosed fields. This process was facilitated by legal and legislative changes that allowed landowners to fence off and privatise common lands. Enclosures led to more efficient land use, as larger farms could adopt improved farming techniques and benefit from economies of scale. However, the Enclosure Movement also resulted in the displacement of many rural peasants and exacerbated social inequalities. This was replicated in Aotearoa under imported colonial norms which disadvantaged Māori significantly.

[39] https://www.britannica.com/money/topic/Industrial-Revolution

[40] https://oercommons.org/courseware/lesson/87910/student/?section=1

[41] https://celdf.org/the-enclosure-movement/

**Decline of Feudalism**[42]: The Industrial Revolution marked a significant decline in feudalism. The feudal system, with its hierarchical structure and agricultural focus, became less relevant as industrialisation and urbanisation took hold. The growth of factory-based industries drew people away from rural areas, and the feudal obligations and relationships between lords and serfs became less economically viable. As agriculture became more mechanised and commercially oriented, the traditional obligations and practices associated with feudalism diminished.

**Rural-Urban Migration**[43]: The Industrial Revolution led to a massive migration of people from rural areas to growing industrial centres. The lure of factory jobs and higher wages attracted many agricultural workers away from the countryside. This shift in population contributed to the decline of feudalism as agricultural labour became scarce, and new employment opportunities emerged in urban areas. Through a range of Government policies, this too was replicated here in NZ which deconstructed tribal, whānau and hapū cohesion and let directly to a loss of cultural identity for urbanised Māori – especially rangatahi / youth.

**Changes in Land Ownership**[44]: With the rise of industrial capitalism, land ownership and control shifted away from traditional feudal lords. The new industrial bourgeoisie, consisting of factory owners and entrepreneurs, accumulated wealth and acquired large tracts of land. The feudal aristocracy lost their dominant position in society, and land became increasingly commodified. Ultimately, this class of British society became the drivers of colonisation here in NZ and the land acquisition model they had developed in England was transferred to Aotearoa.

There are a number of key influences on the development of the western agricultural model in New Zealand.

**Isolation**

As a small archipelago in the South Pacific, the physical isolation of New Zealand from other land masses over a long period has shaped many aspects of agricultural development. The unique evolution of the flora and fauna meant there were few endemic species considered valuable to colonial agriculture, based as it was on the selection of plants for maximum carbohydrate/protein accumulation[45] and the feeding of domesticated megafauna[46].

[42] https://brewminate.com/the-decline-of-feudalism-in-the-medieval-world/

[43] https://www.britannica.com/topic/urbanization/Impact-of-the-Industrial-Revolution

[44] https://www.britannica.com/money/topic/Industrial-Revolution

[45] https://nzetc.victoria.ac.nz/tm/scholarly/tei-DruExot-t1-body1-d4.html

[46] Dominati, E. J., Dodd, M.B., Watson, G. (2023). Review of western farming philosophies and how to learn from Mātauranga Māori to develop trans-cultural farming systems - Report prepared for Nga Uri o Te Ngahere Trust, May 2023, AgResearch, Lincoln, NZ.

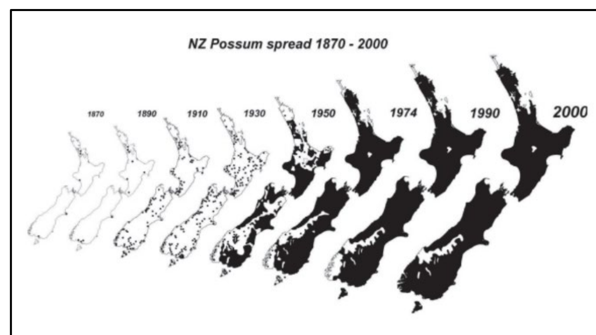
The introduction of domesticated megafauna (large, domesticated animals) can have negative impacts on endemic flora and fauna, as well as on indigenous people and their traditional way of life. Some of these are detailed below.

**Grazing Pressure**[47]: Domesticated megafauna, such as cattle, horses, or goats, can exert heavy grazing pressure on vegetation. They consume large quantities of plant material, which can lead to overgrazing and damage to the natural habitat. This can result in the depletion of native plant species, disruption of plant communities, and alteration of ecosystems.

**Competition for Resources**[48]: Domesticated megafauna often compete with native wildlife for resources such as food, water, and shelter. They may outcompete native herbivores for grazing areas or consume resources that are crucial for the survival of native fauna, leading to resource scarcity and potential decline or displacement of indigenous species.

**Habitat Destruction**: The presence of domesticated megafauna can lead to habitat destruction and fragmentation. Indigenous flora and fauna rely on specific ecosystems and habitats for their survival. Domesticated animals, especially when left uncontrolled, can trample vegetation, disturb soil, and destroy critical habitats, thereby impacting the balance and biodiversity of the ecosystem.

**Introduction of Invasive Species**[50]: A key driver of biodiversity loss and the introduction of flora and fauna pests was the New Zealand Acclimatisation Society.[51] Having landed in NZ this society set about changing the landscapes and the species endemic to NZ into those they had left behind in Mother England. The long list of species introduced includes gorse, heather, ragwort, broom etc as well as deer, goats, stoats, ferrets and cats. Later they introduced possums to create a fur industry. In some cases, domesticated megafauna can escape or be released into the wild, becoming feral populations. These feral populations can become invasive species, competing with native fauna for resources and potentially causing further disruption to the ecosystem. They may outcompete or prey upon indigenous species, leading to population declines or local extinctions.



Possum spread from 1850 - 1990 in New Zealand[49]

**Disruption of Traditional Indigenous Practices**: The introduction of domesticated megafauna can disrupt indigenous people's traditional way of life, which often involves a

[47] https://www.hindawi.com/journals/ijfr/2023/3981111/

[48] https://besjournals.onlinelibrary.wiley.com/doi/10.1111/j.0021-8901.2004.00885.

[49] Possum spread from 1850 - 1990 in New Zealand

[50] https://www.mdpi.com/2073-445X/11/8/1370

[51] https://nzetc.victoria.ac.nz/tm/scholarly/tei-DruExot-t1-body1-d6-ft4.html

close relationship with native flora and fauna. Indigenous communities may depend on specific plants and animals for food, medicine, clothing, and cultural practices. The presence of domesticated megafauna can alter ecosystems and the availability of traditional resources, affecting indigenous livelihoods, cultural practices, and the transmission of traditional knowledge from generation to generation.

**Loss of Cultural Heritage**: The decline or displacement of endemic flora and fauna due to the impacts of domesticated megafauna can result in the loss of cultural heritage for indigenous communities. Traditional practices, rituals, and knowledge tied to specific plants and animals may become threatened or lost with the destruction of their populations and / or environments, affecting the cultural identity and spiritual connection of indigenous peoples with their environment.

It is important to note that the specific impacts of domesticated megafauna on endemic flora, fauna, and indigenous communities can vary depending on the context, the type and scale of domesticated animals, and the management practices employed. Nevertheless, recognising and addressing these potential negative impacts is crucial to promote sustainable land management, conservation, and the preservation of indigenous cultures and traditional ways of life.

Isolation had early benefits for imported agricultural species, in that their natural enemies were not present locally and the associated colonisation lag meant that crop and animal species could perform better without these burdens. Isolation also provides the ongoing ability to exclude undesirable species and maintain that ecological advantage. However, the flip side of the coin is that when such species have colonised, they too have had few natural controls and have proliferated, to the detriment of both native species and introduced species of productive worth (e.g., white clover). Isolation and a small population have led us to rely on overseas income to maintain first world lifestyles – an export and tourism dominated economy.[52]

**Natural environment**

The position of NZ in the mid-latitudes, covering a wide latitudinal range with a temperate moist maritime climate, means that potentially we can grow most things somewhere in New Zealand. Despite this it has taken some time to develop a wide diversity of agricultural products. This can partly be attributed to economies of scale in the processing and distribution of products, interacting with the need to minimise production cost as noted above.

The potential natural vegetation under this climate regime is largely shrubland and forest dominated, with typically k-selected dominant species being unsuitable for rapid plantation timber or fruit production. The early colonial demand for construction of ships and buildings colluded with the need to clear these forests for the expansion of herbaceous vegetation for agriculture. The ecological contrast between the typical characteristics of

[52] (Dominati et al., 2023)

indigenous plant species and agricultural plant species has contributed to a divergence in the use of land for conservation (forest) and production (pasture), a culture of land sparing rather than land sharing. Erosion of deforested “soft rock” hill lands and the decline in soil fertility following the “bush burn” nutrient flush formed the first natural resource crises for New Zealand agriculture.[53]

Nutrient flush has an environmental impact derived from nutrient runoff or leaching. In New Zealand agriculture, nutrient runoff has had significant implications for both agriculture and indigenous people in the following ways:

**Nutrient Runoff and Agriculture**[54]: Nutrient runoff occurs when excessive fertilisers, particularly nitrogen and phosphorus, are applied to farmland. These nutrients can be washed away by rain or irrigation water and end up in rivers, lakes, and coastal areas. In New Zealand, intensive farming practices, such as dairy farming, have been identified as major contributors to nutrient runoff.

**Environmental Impacts**[55]: The excess nutrients fuel the growth of algae and other aquatic plants, leading to algal blooms. These blooms can deplete oxygen levels in the water, causing harm to fish, shellfish, and other aquatic organisms. In addition, the excessive nutrients can contribute to water pollution, impairing water quality and ecosystem health.

**Indigenous People and Water Resources**: The implications of nutrient runoff for indigenous people, particularly Māori, are significant. Māori have a strong cultural and spiritual connection to water bodies, as well as a reliance on them for sustenance, cultural practices, and traditional knowledge. The pollution and degradation of water resources due to nutrient runoff can undermine Māori's ability to exercise their cultural practices and access clean water for drinking, fishing, and other customary uses.

**Early Land development**

The complex topography of a plate-boundary land mass meant that early development was restricted to coastal plain areas, being the most productive flat and fertile soils with good freshwater resources and proximity to developing ports. Agricultural development in the steeper low-altitude hill lands unsuited to arable crops meant reliance on pastoral animals with a high energy efficiency in harvesting plant tissue. Ruminants are the most efficient in converting low quality cellulose to high quality protein thanks to co-evolution with microbes, and thus domestic sheep and cattle were therefore highly suitable for semi-intensive to extensive pastoral enterprises on these lands. Other types of equally suitable domestic livestock (i.e., goats, deer) have taken longer to proliferate in farm systems, possibly partly due to the difficulties associated with containing them but have certainly been effective at colonising non-farmed landscapes.

[53] (Dominati et al., 2023)

[54] https://www.epa.gov/nutrientpollution/sources-and-solutions-agriculture

[55] https://www.studysmarter.co.uk/explanations/environmental-science/pollution/nutrient-pollution/

Fossil fuel resources, elsewhere so influential in global development, were scarce in New Zealand until the Taranaki hydrocarbon fields were discovered and developed in the 1970s (Maui gas). In terms of the direct effect on agriculture, this enabled the local production of cheap N fertiliser and led to a subsequent acceleration in use, particularly in the intensive livestock sector reliant on a highly N-responsive species (i.e., perennial ryegrass).[56]

**Culture**

European colonisation, around the time of the second agricultural revolution in Europe, undoubtedly has been the major shaper of NZ agricultural systems. It influenced the main species of plants and animals used, influenced access to land resources through acquisition, conflict and law-making, and influenced technological innovation that enabled productivity development. Notions of the superiority of European culture and "manifest destiny" fuelled the subjugation of indigenous species – plant, animal and human, perhaps most clearly seen in the philosophy and pursuits of the Wakefields/New Zealand Company.

**Manifest Destiny**

The concept of Manifest Destiny[58], which originated in the United States was a concept born of British colonial rule and beliefs. It emphasised the belief that American settlers were destined by a higher power to expand their territory and bring their civilization westward. While Manifest Destiny was primarily associated with the United States, it had similar parallels and impacts in other parts of the world, including New Zealand and its indigenous Māori population. Manifest Destiny impacted indigenous Māori in numerous ways.

In the late 1890s, American political cartoons illustrated manifest destiny, or America's geopolitical and colonial expansion. The United States considered annexing Hawaii, Cuba, Puerto Rico, and the Philippines.[57]

The ideology of Manifest Destiny justified the colonisation and acquisition of indigenous lands. In New Zealand, British colonisers used similar justifications, such as the idea of bringing progress and civilisation, to legitimise the acquisition of Māori land. The Treaty of Waitangi, signed between the British Crown and Māori chiefs in 1840, was intended to protect Māori rights and land, but its implementation was often flawed, leading to widespread land confiscations and dispossession of Māori.

The belief systems within Manifest Destiny fuelled conflicts between settlers and indigenous people. In New Zealand, tensions between the expanding British settlers and the Māori erupted into a series of wars known as the New Zealand Wars or the Land Wars. These

[56] (Dominati et al., 2023)

[57] https://commons.wikimedia.org/wiki/File:See-saw!_Uncle_Sam_in_Hawaii.jpg

[58] https://www.history.com/topics/19th-century/manifest-destiny

conflicts, fought from the 1840s to the 1870s, resulted in significant loss of Māori land, loss of life, and disruptions to Māori communities and culture.

The ideology of Manifest Destiny often promoted the assimilation of indigenous peoples into the dominant culture. In New Zealand, Māori cultural practices, language, and traditions were suppressed or devalued by the British colonisers. Māori children were often forcibly removed from their families and sent to boarding schools where their language and culture were discouraged, leading to the erosion of traditional Māori knowledge and practices.

The impact of Manifest Destiny and colonisation on indigenous peoples often resulted in social and economic disparities. In New Zealand, the loss of land and resources greatly affected the Māori population, leading to economic disadvantages and disparities in wealth and opportunity. Māori communities continue to face challenges such as lower socioeconomic status, higher rates of unemployment, and poorer health and educational outcomes compared to non-Māori.

Over time, there have been efforts in New Zealand to address the historical injustices faced by Māori and to promote reconciliation. The Treaty of Waitangi has been recognised as a founding document of the nation, and the Waitangi Tribunal was established to address historical grievances and provide remedies. There has been a growing recognition of Māori rights, language revitalisation, and efforts to promote Māori cultural heritage.

Furthermore, cultural and economic ties to Europe have persisted for generations. Our commitment to supporting the Western alliances in the two major European wars affected labour availability, the entry of women into the productive workforce, and the allocation of land via ballots to returning soldiers. Global post-war demand for food encouraged national-scale productivity growth, initially via the appropriation of every possible scrap of land for agriculture, and more latterly via the intensification of inputs into a static or declining land base. With an almost total reliance on European markets until the advent of the European Economic Community in the 1970s, product range remained linted until the emergence of alternative markets in Asia and America, which sought more diversified products (e.g., deer, live animals, horticulture, timber).[59]

That total reliance of New Zealand farmers on European markets until the advent of the European Economic Community (EEC) had several significant disadvantages, including:

**Vulnerability to Market Volatility[60]**: Relying heavily on a single market, such as the European market, made New Zealand farmers highly vulnerable to market fluctuations. Changes in demand, economic conditions, or trade policies in Europe could have immediate and severe impacts on New Zealand's agricultural exports.

[59] (Dominati et al., 2023)

[60] https://eh.net/encyclopedia/an-economic-history-of-new-zealand-in-the-nineteenth-and-twentieth-centuries/

Any disruptions or downturns in the European market could lead to a significant decline in farm incomes and economic instability.

**Limited Market Diversification**: The exclusive reliance on European markets limited New Zealand's ability to diversify its export destinations. With limited exposure to other international markets, New Zealand farmers had fewer opportunities to explore alternative markets and take advantage of emerging trading partners. This lack of diversification increased the country's exposure to market risks and limited its potential for growth and stability in the agricultural sector.

**Dependence on Preferential Trade Agreements**[61]: Prior to the 1970s, New Zealand enjoyed preferential trade agreements with European countries due to its historical ties to the British Empire. However, as European countries began to integrate and form the EEC, the terms of trade changed, and New Zealand lost its preferential access to European markets. This sudden loss of preferential treatment further exacerbated the vulnerability and disadvantages faced by New Zealand farmers.

**Agricultural Subsidies and Protectionism**[62]: The formation of the EEC brought about increased agricultural subsidies and protectionist measures within Europe. These policies aimed to protect domestic European farmers and industries from external competition. As a result, New Zealand farmers faced greater barriers to access the European market, including higher tariffs and quotas, making it more challenging for them to compete and export their products.

**Lack of Control over Market Conditions**: Depending solely on European markets meant that New Zealand farmers had little control over market conditions or the ability to shape demand and prices. They were subject to the dynamics and decisions of the European market, which could have unpredictable and adverse consequences for their agricultural products. This lack of control hindered the ability of New Zealand farmers to adapt, innovate, and respond effectively to changing market dynamics.

The disadvantages of relying solely on European markets for New Zealand farmers highlighted the need for diversification and a broader range of trading partners. The advent of the European Economic Community and subsequent trade policy shifts forced New Zealand to explore new markets and develop strategies to reduce its reliance on a single market, leading to greater diversification and a more resilient agricultural sector.

**Markets**

Our small and isolated land mass with a low population size has inherently low local demand relative to potential supply, leading to a dominantly export-based primary sector. Moreover, long distances from markets and the associated transport costs and potential for product

[61] https://teara.govt.nz/en/britain-europe-and-new-zealand/print

[62] Britain, Butter, and European Integration, 1957-1964 John Singleton and Paul L. Robertson The Economic History Review New Series, Vol. 50, No. 2 (May, 1997), pp. 327-347

decay in transit have driven an initial historical focus on durable products (e.g., South Island wool), then a high-density nutritional product (e.g., lamb and milk powder) once technology enabled post-harvest processing to ensure product integrity.

Reliance on overseas markets engenders a vulnerability to global market price, which along with the cost of shipping has meant a relentless focus by the primary sector on low production cost and high efficiency of capital, labour and land utilisation.

Features of this economic model include:

Owner-operator small business units. Dominantly pākehā family (strongly patriarchal, which transfers into sector leadership).

Land as a capital asset – means that farming for capital gain is a viable wealth-creating strategy in a context of an increasing population, peri-urban sprawl and increasing demand for land (local and international). Equity growth is seen in “stepping-stone farms” which encourage moving between properties of increasing scale.

High rates of land use change – relatively rapid transitions between enterprises, due to price instability in small volume markets combined with innovative people. Recent growth areas have been dairy support, horticulture, international investors, carbon farming.

The increasing cost of labour, implementation of labour-saving innovations (e.g., milking machinery, farm transport) and better earning potential for workers in urban areas saw rural-urban drift (1960s) and the generational connection to land/farming diminishing.

Neo-liberalism, deregulation and user pays (1980s) drove efficiency, diversification, direct marketing, dismantling of government extension, and a decline in research capacity (a luxury item in the short-term).[63]

This had negative impacts on Māori such as:

**Land Dispossession and Loss of Control**: Neo-liberal policies, often driven by market-oriented approaches, can exacerbate land dispossession and undermine indigenous land rights. Deregulation and market forces can lead to increased competition for land, potentially leading to the displacement of indigenous communities and loss of control over traditional territories.
**Cultural Erosion and Loss of Traditional Knowledge**: The emphasis on efficiency and market-driven agriculture may prioritise production methods that are not compatible with indigenous cultural practices or sustainable resource management. This can lead to the erosion of traditional knowledge, loss of biodiversity, and the cultural marginalization of indigenous communities.
**Unequal Power Dynamics**: Neo-liberal policies can reinforce power imbalances between indigenous communities and larger market actors. Indigenous farmers may face challenges in accessing resources, finance, and markets due to their historical disadvantage and limited bargaining power. This can perpetuate inequality and marginalisation.

[63] (Dominati et al., 2023)

**Technologies**

Rather than drivers, we suggest technologies have been enablers, allowing the primary sector to pursue its productivity and economic objectives. It has interacted with culture in the form of a prevailing belief in research as a solution to overcoming natural resource limitations and improving production efficiency (rather than abandoning unsuitable land – Cockayne early 1900s).[64]

However – no consideration was given to the critical need to approach agricultural technology research and adoption in a manner that respects indigenous rights, cultural values, and traditional knowledge systems. Collaborative research partnerships, participatory approaches, and the recognition of indigenous farmers' agency and decision-making power are important for mitigating potential negative impacts and ensuring that technological advancements are culturally appropriate, environmentally sustainable, and socially inclusive.

Thus – the negative impacts this had on Māori were:

**Cultural Erosion**: The adoption of agricultural technologies led to the erosion of traditional agricultural practices and cultural values within indigenous communities. The shift towards modern farming techniques diminished the importance and transmission of indigenous knowledge systems, impacting cultural identity and traditional ways of life.

**Loss of Biodiversity**: The focus on production efficiency and high-yielding crops in agricultural technology research led to a reduction in biodiversity. Indigenous agricultural systems often emphasise diverse crops and traditional seed varieties, which contribute to biodiversity conservation[65]. The replacement of traditional crops with monocultures or genetically modified crops can negatively impact indigenous peoples' food sovereignty and disrupt local ecosystems.

**Access and Equity**: The adoption of agricultural technologies often requires financial resources, access to markets, and infrastructure, which can create barriers for indigenous farmers. Limited access to capital, land tenure challenges, and unequal power dynamics have impeded indigenous communities' ability to fully benefit from and participate in agricultural technology advancements. This can perpetuate existing social and economic disparities.

**Dependence on External Input**s: Some agricultural technologies, such as chemical inputs or patented seeds, can create dependencies on external actors or corporations. Indigenous farmers became reliant on expensive inputs, disrupting traditional self-sufficiency and creating vulnerability to market fluctuations and changes in the availability of these inputs.

[64] (Dominati et al., 2023)

[65] https://satoyama-initiative.org/case_studies/the-use-of-agrobiodiversity-by-indigenous-and-traditional-agricultural-communities-in-adapting-to-climate-change/

The list of technologies used on New Zealand is long (some key ones below), reflecting the long-standing innovative culture of the sector (also a cultural construct of new world pioneers).

Most technologies have been developed locally, supporting the worldview that we have generally developed our own solutions for the environmental and economic context. Central government has historically been a strong investor, through financial support for research, extension and training from the late 1800s, but which grew massively post WWII. It remains as the only substantive "subsidy" for the primary sector following the neo-liberal reforms of the 1980s.

- Refrigerated shipping 1882 enabled meat export to Europe.
- Grazing management: Controlled/rotational grazing – McMeekan 1940s, along with later development of electric fencing (Phillips)
- Machinery: D4 bulldozer for hill country clearance and access; bikes over horses.
- Soil fertility: Aerial topdressing – 1950s post war pilots, cheap P from Nauru (another colonial resource), identification end remedy of key nutrient deficiencies (Cobalt 1030s-40s, Molybdenum for clover 1950s, Selenium)
- Milk harvesting machinery (rotary bail shed)
- Animal health: Zinc for facial eczema in 1970s, Tuberculosis control testing, copper for cattle, parasite control, vaccination for clostridial diseases.
- Genetics – sheep (Perendale, Drysdale), cattle (Friesian + Jersey = kiwi cross), pastures (mainly ryegrass, white clover with limited other species), Pinus radiata, Artificial Insemination in dairy sector
- Irrigation – border dyke (energy efficient) vs travelling (water efficient), also K-line, VRI. Water sourced from wet ranges and delivered to dryland east coast over relatively short distances.
- Erosion control, poplar and willow breeding
- Pregnancy scanning (1980s)

These factors led to some key mental paradigms of the New Zealand agricultural sector (mainly Pākehā mindsets, but also influential for Māori in terms of what is considered excellence in farming practise):

- We are the powerhouse of the economy, reinforced during COVID pandemic. Though historic political power has waned. Regulation will supress profit and hurt the nation.
- We are export focussed – the best produce goes out at the lowest cost of production.
- We are the most efficient food producers in the world – in terms of labour, land, inputs (fertiliser, genetics, energy)
- We leave the land in a better state for the next generation – whereby "improvement" means productive efficiency, through drainage, soil fertility, pasture

quality, pest & weed control (a focus on on-site resource management as opposed to off-site environmental management)

- We harness kiwi ingenuity – technology/science is valued, and individual experimentation enables us to adapt this to local farm systems (the No. 8 wire meme). Dynamic enterprise/land use change in search of a market edge has resulted in volatile livestock and product prices. This sense of ingenuity also engenders some resistance to "overseas" solutions, as being of limited relevance.
- We (the national collective) have preserved nature in the conservation estate (public land), so there is no need for it on the production estate (private land)[66]

However, many of these mindsets are questionable, and they carry high risk. If agricultural technology had been developed using indigenous peoples' principles, it would have considered their traditional knowledge, cultural values, and sustainable practices. Some aspects of that more advanced model would have incorporated:

**Agroecological Approaches**

Indigenous agricultural practices often emphasise agroecological principles, such as intercropping, crop rotation, and polyculture systems. Agricultural technology developed with indigenous principles would have focused on supporting and enhancing these practices, promoting biodiversity, soil health, and natural resource conservation.

**Traditional Seed Systems**: Indigenous peoples have developed diverse and locally adapted seed varieties over generations. Agricultural technology aligned with indigenous principles would have recognised and preserved these traditional seed systems, promoting seed sovereignty and diversity rather than relying solely on genetically modified or commercial seeds.

**Local Knowledge Integration**: Indigenous peoples possess deep knowledge of their local ecosystems, including weather patterns, natural pest management, and traditional land management practices. Agricultural technology would have incorporated and respected this local knowledge, ensuring that it complements and enhances indigenous practices rather than displacing or disregarding them.

**Community Empowerment**: Indigenous principles emphasise community decision-making and collective well-being. Agricultural technology would have prioritised community participation, ownership, and control over decision-making processes, allowing indigenous communities to shape the technology's development, implementation, and outcomes.

**Sustainability and Resilience**: Indigenous agricultural systems often prioritise long-term sustainability and resilience. Technology aligned with indigenous principles would have aimed to reduce environmental impacts, conserve natural resources, and promote climate

[66] (Dominati et al., 2023)

resilience, supporting indigenous peoples in adapting to and mitigating the effects of climate change.

Additional Benefits would be:

**Cultural Preservation**: Developing agricultural technology with indigenous principles would have safeguarded and revitalised traditional knowledge systems and cultural practices. This would have promoted cultural preservation, community identity, and intergenerational knowledge transfer.

**Food Sovereignty**: Agricultural technology aligned with indigenous principles would have supported indigenous communities' ability to produce their own food, enhancing food sovereignty and reducing dependence on external actors. This would have strengthened local food systems, improved nutritional diversity, and increased community self-sufficiency.

**Economic Empowerment**: Incorporating indigenous principles into agricultural technology would have provided economic opportunities for indigenous farmers. By recognising and valuing indigenous agricultural practices, technology could have supported indigenous-led businesses, value-added activities, and direct marketing, contributing to community economic empowerment.

**Environmental Stewardship**: Indigenous principles emphasise a holistic and interconnected relationship with nature. Agricultural technology aligned with these principles would have contributed to environmental stewardship, promoting sustainable land and water management, biodiversity conservation, and the protection of ecological integrity.

### Impacts

The rapid expansion of agriculture worldwide since 1960s has led to huge environmental impacts including land degradation and erosion, biodiversity loss across all phyla, declining freshwater quality and an increase in all GHG emissions, contributing significantly to climate change[67] (figure 7).

[67] WWF. (2020). Living Planet Report 2020 - Bending the curve of biodiversity loss.

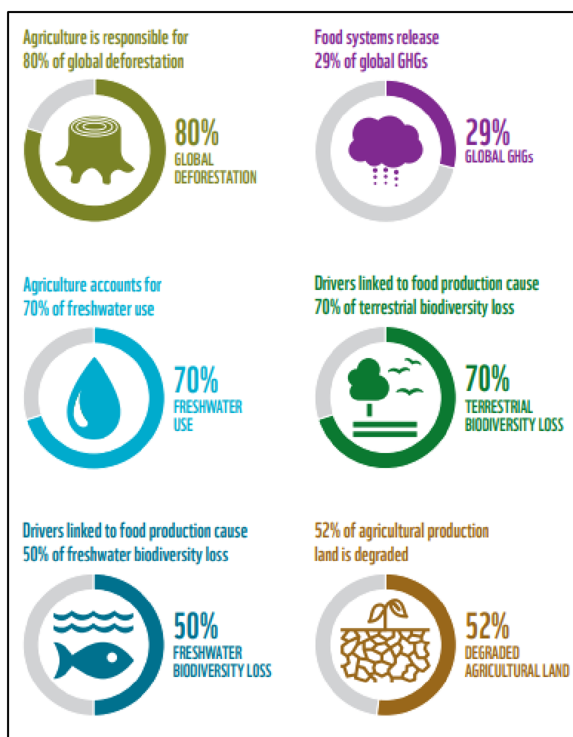



Figure 7: global impacts of agriculture[68]

For most of its history, agriculture in New Zealand has been judged for its ability to generate export revenue and underpin economic growth. Secondary to this was the value it generated in terms of employment, less so directly and more so indirectly as labour resources have moved from rural to urban.

Impacts on the environmental dimension of sustainability were initially confined to "on-site" issues, such as the loss of productive soil by erosion, which has direct feedback to the productive enterprise. More recently, the "off-site" issues at regional and national scales have emerged, particularly with their codification in national legislation (Resource Management Act 1991).

Three main "environmental issues" contribute to the discourse on these externalities:

1. Freshwater quality
2. Greenhouse gas emissions and
3. Biodiversity loss.

Soil quality, in terms of problems like compaction and contaminants, is a secondary but emerging issue. Otherwise, several environmental impact issues recognised globally seem to have less traction in New Zealand.

[68] (WWF, 2020)

Deforestation has been a major part of agricultural development, but the retention of c. 30% of land in the conservation estate, much of it as indigenous forest, has somewhat mitigated this concern in the public eye (even though the remaining indigenous vegetation cover is poorly representative of the original and lacks pest control and protection).

Water quantity/availability tends to be a regionalised issue mitigated by the development of large irrigation schemes from the 1970s onwards. Air quality is very localised to some urban areas where coal or wood-based heating persists, and there is little substantive heavy industry to generate the airborne sulphur and nitrogen-based compounds associated with acid rain in the Northern Hemisphere.[69]

The planetary boundaries framework[70] is a modern attempt to assess the degree to which the activities of the global human population have overshot the ability of natural systems to supply sustainable services to that population.

Nine boundaries were identified by the Stockholm Resilience Centre: stratospheric ozone depletion, loss of biosphere integrity (biodiversity and species loss), chemical pollution, climate change, ocean acidification, freshwater consumption and hydrological cycles, land-system change, biogeochemical cycles (N and P) and atmospheric aerosol loading. Two were identified as high risk due to changes in control variables (biosphere integrity and biogeochemical cycles) and another two as uncertain but of increasing risk (climate change and land-system change).

In 2020, an independent report called "A safe operating space for New Zealand/Aotearoa-Translating the planetary boundaries framework" was commissioned by the New Zealand Ministry for the Environment, and produced by the Potsdam Institute for Climate Impact Research, the Stockholm Resilience Centre and the Mercator Research Institute on Global Commons and Climate Change[71]

It translated the planetary boundaries framework for New Zealand to inform government approaches to environmental stewardship, well-being and economic development. The report examined 5 of the 9 planetary boundaries for New Zealand including climate change, land-system change, freshwater use, biogeochemical cycles (nitrogen and phosphorus use) and biosphere integrity (related to biodiversity) (Figure 2). The report concluded that "Like other high-income nations that have been assessed, New Zealand exceeds its fair share of the five planetary boundaries. The transgressions apply for both consumption based and production-based perspectives, based on the equality principle and translated per capita or

[69] (Dominati et al., 2023)

[70] Steffen, Will, et al. "Planetary boundaries: Guiding human development on a changing planet." Science 347.6223 (2015): 1259855.

[71] Andersen, L., Gaffney, O., Lamb, W., Hoff, H., & Wood, A. (2020). A safe operating space for New Zealand/Aotearoa - Translating the planetary boundaries framework. https://www.stockholmresilience.org/download/18.66e0efc517643c2b810218e/1612341172295/Updated%20PBNZ-Report-Design-v6.0.pdf

per area, depending on the boundary”[72]

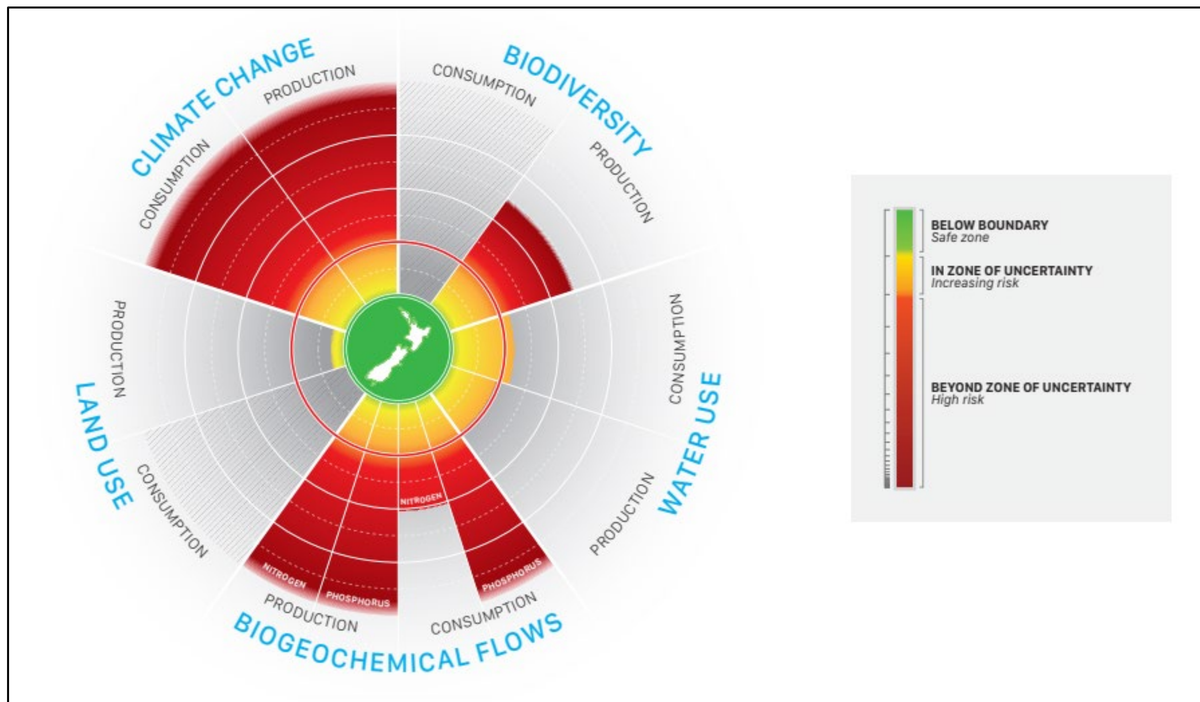



Figure 8: Five planetary boundaries translated for New Zealand.[73]

In light of the growing evidence of the perilous state of our global and national life support systems and the impact that agriculture has had on this state, there have been a number of initiatives over the last c. 50 years to redesign agriculture and food production systems. All have emerged from western European-based cultures and researchers, none from indigenous peoples and none from within New Zealand.

If agricultural technology had been developed using indigenous peoples' principles, it would have likely contributed to keeping New Zealand's primary production within the nine planetary boundaries via the following means:

### Biodiversity Conservation

Indigenous agricultural principles prioritise biodiversity conservation. By incorporating these principles into agricultural technology, there would be a greater emphasis on maintaining diverse ecosystems, protecting native species, and minimizing the loss of biodiversity. This would help ensure that New Zealand's primary production aligns with the planetary boundary of biodiversity integrity via:

[72] (Andersen et al., 2020).

[73] https://chrisboxall.com/2021/03/20/omission-2-planetary-boundaries/#_ftn8

**Land and Water Management:** Indigenous agricultural practices often focus on sustainable land and water management. Agricultural technology developed with these principles would prioritise soil conservation, watershed protection, and sustainable irrigation practices. By implementing such technology, New Zealand's primary production could operate within the planetary boundaries of land system change and freshwater use.

**Climate Change Mitigation**: Indigenous principles often promote climate resilience and adaptation. Agricultural technology aligned with these principles would incorporate climate-friendly practices, such as agroforestry, carbon sequestration, and sustainable energy use. This would help New Zealand's primary production contribute to the planetary boundary of climate change mitigation.

**Resource Efficiency:** Indigenous agricultural systems often emphasise resource efficiency and waste reduction. Agricultural technology developed with these principles would prioritise efficient use of water, energy, and nutrients. By optimizing resource use, New Zealand's primary production could operate within the planetary boundaries of water and nutrient cycles.

**Cultural Connection to Land:** Indigenous principles emphasise the cultural and spiritual connection to the land. Agricultural technology developed with these principles would prioritise the holistic well-being of the land and the communities that rely on it. This would foster a deeper appreciation for the interconnectedness between cultural values, traditional practices, and sustainable land use, aligning with the planetary boundary of cultural integrity.

By incorporating indigenous principles into agricultural technology, New Zealand's primary production would be better positioned to operate within the nine planetary boundaries. This approach would ensure the long-term sustainability of the agricultural sector while preserving ecological integrity, cultural values, and the well-being of indigenous communities. It would contribute to a more balanced and regenerative approach to agriculture that respects the Earth's boundaries and supports a sustainable future.

The history of New Zealand farming demonstrates a highly dynamic social-ecological system, with globally relatively high rates of change in demographics, land use and enterprise mixes. In one sense, the sustainability of existing systems is constantly being challenged and they are adapting rapidly. This may be a normal feature of a relatively young society.

However - While the industry is often described as a highly dynamic social-ecological system, it is crucial to recognise that sustainability encompasses not only environmental considerations but also social and cultural dimensions, including the recognition and respect for indigenous rights. Disregard of indigenous rights within the farming industry raises significant concerns and challenges the industry's claim to overall sustainability.

Putting this in context:

**Environmental Sustainability:** The New Zealand farming industry has faced criticism regarding its environmental impact, particularly related to water pollution, soil degradation,

and greenhouse gas emissions. Ensuring environmental sustainability is crucial for long-term agricultural viability and aligning with global sustainability goals.

**Social Equity and Justice**: Sustainable agriculture goes beyond environmental considerations and includes social equity and justice. The trampling of indigenous rights within the industry raises questions about the industry's commitment to social justice and inclusivity. Addressing these issues is essential for achieving true sustainability.

**Cultural Preservation**: Sustainability involves preserving cultural diversity and traditional knowledge. Indigenous rights and cultural practices should be respected and integrated into agricultural practices to promote cultural preservation, social well-being, and a more holistic approach to sustainability.

**Collaboration and Reconciliation:** Moving towards a more sustainable farming industry requires collaboration, dialogue, and reconciliation with indigenous communities. Recognising and valuing indigenous rights, land stewardship practices, and traditional knowledge can contribute to sustainable farming systems that are socially inclusive and culturally respectful.

**Policy and Governance:** The government's role in regulating and shaping the farming industry is critical for promoting sustainability and protecting indigenous rights. Effective policies and governance frameworks should address environmental, social, and cultural dimensions while ensuring the meaningful participation of indigenous communities in decision-making processes.

It is important to acknowledge that achieving sustainability in the New Zealand farming industry requires ongoing efforts, learning, and collaboration. Addressing the trampling of indigenous rights and integrating indigenous perspectives and practices into agricultural systems are crucial steps towards a more sustainable and inclusive industry.

The section below presents and reviews western approaches to enhance the sustainability of farming systems.

### “Novel” Approaches to Farming

In terms of the agro-ecological system being managed, the long-term undercurrent of increasing inputs (energy, nutrients, genetics) to drive production, productivity and efficiency has been constantly under scrutiny. Modern “conventional” agricultural systems provide large volumes of food and fibre to local and global economies, given that the ever-increasing human population means that food scarcity and hunger are still huge challenges, rendered even more critical by climate change. However, these systems are often characterised by monocultures of plant and animal species, require high-external inputs facilitated by cheap energy, are prone to pest and disease outbreaks and are very resource-

intensive. To meet the increase in food-needs and need to reduce inequality and poverty, new approaches to food production are needed[74].

Several paradigms have emerged in the last half century in response to criticisms of the "conventional" model, emphasising the need for a system reset to restore agro-ecological sustainability. Each has its own set of principles and practises, often with significant overlap between, and some incorporate elements beyond the physical system (i.e., cultural and spiritual). To date none have initiated a revolution in the mainstream model. The only one that has achieved significant market share is organics.

Most of the "novel" ways of farming of the last 70 years, compared to conventional agriculture, (including organic agriculture, biodynamics, permaculture, regenerative agriculture and agro-ecology) advocate for practices used around the world for thousands of years, which existed before the introduction of synthetic chemical inputs, and were based on self-sufficiency and food security. A strong theme running through all is the notion of a holistic orientation of agricultural production systems.[75]

## Biodynamics

After the First World War a global food crisis fuelled massive agricultural development based on land clearance, synthetic fertilisers and agri-chemicals. In response, a number of scientists started warning people against the detrimental effects of synthetic chemicals including soil acidification, soil microbial biodiversity loss, and declining food quality. Organic farming started to be popularised across Europe by scientists such as Rudolf Steiner[76], Ehrenfried Pfeiffer[77] and British agronomist Albert Howard. They advocated the concept of biodynamic farming which was centred around soil health, fertility and preservation and seeing the farm as a living organism.[78]

Biodynamics ("biological-dynamics") is a method of organic agriculture based on the teachings of scientist and philosopher, Rudolf Steiner[79]. Biodynamics is a systems approach, where the farm, vineyard, orchard or garden is viewed as a living whole and each activity affects everything else. A point of difference between organics and biodynamics is that the latter includes practises following moon phases. Thus, biodynamics includes the study of how cosmic influences affect life on earth, which corresponds with Māori Mana Atua values and concepts, including the Maramataka. Steiner taught that the planets in our solar system

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[74] FAO. (2019). The 10 Elements of Agroecology. https://www.fao.org/3/i9037en/i9037en.pdf

[75] (Dominati et al., 2023)

[76] Paull, John. "Attending the first organic agriculture course: Rudolf Steiner's agriculture course at Koberwitz, 1924." European Journal of Social Sciences 21.1 (2011).

[77] Pfeiffer, E., & Heckel, F. E. (1938). Bio-dynamic farming and gardening : soil fertility renewal and preservation.

[79] BiodynamicsNZ. (2021). What is Biodynamics? https://biodynamic.org.nz/ Accessed November 2021. Retrieved 11/11/21 from https://biodynamic.org.nz/

and even the stars can also affect conditions for plant and animal growth and vitality. The Bio-Dynamic Farming and Gardening Calendar from German gardener Maria Thun[80] contains information about the various phases and rhythms of the moon, the influences of the planets and their relationships with the earth, and what these all mean in relation to plant growth and animal health. The biodynamic calendar is a guide to optimal times for sowing, planting, harvesting and fertilising but other factors (weather, availability, other responsibilities) will also influence what can be done and when. Examples of research in support of these practises include authors such as Kolisko[81] or Zürcher[82], who observed that the period and percentage of germination and subsequent plant growth was influenced by the phase of the Moon at sowing time.

However, recently Mayoral et al. [83] undertook a review of the physics and biology literature regarding the lunar influence on plants in agriculture. They found that from a traditional western science perspective there is little or no reliable, science-based evidence for any relationship between lunar phases and plant physiology in any plant–science related textbooks or peer-reviewed journal articles justifying agricultural practices conditioned by the Moon.

Globally, biodynamic systems occupy about 190 000 ha, with over half in Germany[84]. As with Organic Agriculture, farms following biodynamic principles can be certified to provide assurance to their consumers. Demeter International is a worldwide certification system used to verify that food or product has been produced by biodynamic methods[85]. The New Zealand Bio Dynamic Farming and Gardening Association (now Biodynamics New Zealand) was formed in 1939. Biodynamics New Zealand is the Demeter certifier for New Zealand.[86]

### Organics

Organic agricultural practices (in a more generic sense, originally rooted in biodynamics) advanced during the agrarian revival of the 1930s, (e.g., green fertilisers such as manure, mulching, composting, cover crops, crop rotation, biologically based pest controls and limited tillage) were further promoted in the 1940s and onward by people such as J. I.

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[80] Thun, M. (2022). The Maria Thun Biodynamic Calendar.

[81] Kolisko, L. "Moon and plant growth." Moon and plant growth (1936).

[82] Zürcher, Ernst, and Rodolphe Schlaepfer. "Lunar rhythmicities in the biology of trees, especially in the germination of European Spruce (Picea abies Karst.): a new statistical analysis of previously published data." Journal of Plant Studies 3.1 (2014): 103-113.

[83] Mayoral, O., Solbes, J., Cantó, J., & Pina, T. (2020). What Has Been Thought and Taught on the Lunar Influence on Plants in Agriculture? Perspective from Physics and Biology. Agronomy, 10(7), 955. https://www.mdpi.com/2073-4395/10/7/955

[84] Roche, M., Dib, G., & Watson, G. (2021). Bringing biodynamic agriculture to New Zealand in the 1920s and 1930s. Kōtuitui: New Zealand Journal of Social Sciences Online, 16(1), 86-99. https://doi.org/10.1080/1177083X.2020.1764065

[85] https://demeter.net/

[86] https://biodynamic.org.nz/demeter

Rodale and his son Robert, who published Organic Gardening and Farming magazine and a number of texts on organic farming. During the Second World War, fertiliser shortages created a need for organic substitutes. However, after yet another global conflict and subsequent food crisis, chemical-intensive agriculture surged once more. A key touchpoint of the corresponding reaction was publication of the book “Silent spring”[87].

In New Zealand, the first organic organisations, the Humic Compost Club, was founded in 1941. In the 1970s, organic methods made a comeback and more commercial producers adopted organic practices to meet consumer demand. New Zealand’s first organic certifier, BioGro, was created in 1983 to certify New Zealand growers[88].

The modern definition of Organic Agriculture, according to IFOAM-Organics International[89], is “a production system that sustains the health of soils, ecosystems, and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic Agriculture combines tradition, innovation, and science to benefit the shared environment and promote fair relationships and good quality of life for all involved”[90]. Modern Organic farming and certification follows principles of Health, Ecology, Fairness, and Care[91]. It produces crops or meat without using synthetic chemicals or pesticides, with the aim of ensuring there are no harmful residues in these foods.

New Zealand’s organic sector is made up of about 1200 organic producers and produces $623 million worth of product from about 86,000 hectares of certified organic land, while about 6,000ha of land was in the process of organic conversion. This represents 0.7% of agricultural land in NZ (Stats NZ says there are about 50,000 farms in New Zealand covering about 13.6m hectares in 2022). The organic sector was growing at an average of 6.4%/y (from $600m in 2017 to $723m in 2020), but the global market was growing at 9%/yr.

### Permaculture

Permaculture or “permanent agriculture” arose in North America in the late 1920s in response to deforestation, plough agriculture and soil erosion[92]. It spread to Japan and Australia with a strong focus on integrating woody and herbaceous vegetation as a counterpoint to single product systems[93]. Three key ethics are promoted: care of the earth,

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[87] Carson, R. (2002). Silent Spring.

[88]https://www.oanz.org/history

[89] https://www.ifoam.bio/

[90] IFOAM General Assembly 2008, https://www.ifoam.bio/why-organic/organic-landmarks/definition-organic

[91] https://www.ifoam.bio/why-organic/shaping-agriculture/four-principles-organic

[92] Smith, J. R. (1929). Tree Crops. A Permanent Agriculture.

[93] Mollison, B. H., D. (1978). Permaculture One: A perennial agriculture for human settlement. . Corgi Books, London, UK & Melbourne, Australia.

care of people, and setting limits to population and consumption. System design is based on replicating long-evolved natural ecosystems.

Permaculture and the indigenous Māori agricultural systems which are based on te Ao Māori codes, share some similarities in their principles and approaches to sustainable land management. However, they also have distinct cultural and regional differences.

Permaculture is an ecological design system that originated in the late 1970s in Australia. It emphasises sustainable and regenerative practices to create self-sufficient and resilient human settlements. While it was not a direct response to deforestation and soil erosion in North America in the 1920s, permaculture shares a common goal of addressing environmental challenges and promoting sustainable land use.

Key principles of permaculture include:

a) Care for the Earth: Permaculture focuses on working with nature rather than against it, aiming to create systems that have minimal impact on the environment and support ecological health.
b) Care for People: Permaculture seeks to meet human needs while fostering social and economic well-being within ethical and sustainable frameworks.
c) Sustainable Design: Permaculture emphasises designing systems that maximise resource efficiency, reduce waste, and promote resilience.
d) Integrate Diversity: Permaculture encourages the use of diverse species and elements in agricultural systems, promoting ecological balance and reducing vulnerability to pests and diseases.
e) Use of Natural Patterns: Permaculture draws inspiration from natural ecosystems and patterns, aiming to mimic their functions and processes.

### Te Ao Māori Indigenous Agricultural Systems

Te Ao Māori Indigenous Agricultural Systems align strongly with the key principles of permaculture. Te Ao Māori refers to the indigenous worldview and way of life of the Māori people of New Zealand. Māori agricultural systems have a long history dating back centuries and are deeply rooted in Māori culture, traditions, and spiritual beliefs. These systems were developed to sustainably manage natural resources and provide for the needs of the community.

Key elements of te Ao Māori agricultural systems include:

**Ahuwhenua:** Ahuwhenua is a holistic approach to land and resource management that integrates cultivation, food production, and spiritual connections to the land.

**Intergenerational Knowledge**: Māori agricultural systems are based on traditional knowledge passed down through generations, encompassing planting techniques, seed saving, and environmental management practices.

**Polyculture:** Māori agricultural systems traditionally incorporated a diverse range of crops, including kūmara (sweet potato), taro, and yams. Polyculture helps maintain soil fertility, reduces pest and disease pressure, and ensures food security.

**Tikanga and Kaitiakitanga:** Tikanga refers to Māori customs, protocols, and values, while kaitiakitanga embodies the responsibility of stewardship and guardianship of the land and its resources.

**Mahinga Kai:** Mahinga Kai is a holistic concept that encompasses the gathering, growing, and preparation of traditional food sources. It involves sustainable practices to ensure the long-term availability of food resources.

While both permaculture and te Ao Māori indigenous agricultural systems share the principles of sustainability, ecological balance, and diversity, te Ao Māori systems have a deeper cultural and spiritual connection to the land. These systems have evolved over centuries within the specific context of Māori culture, utilising indigenous knowledge and practices to sustainably manage resources and maintain cultural identity.

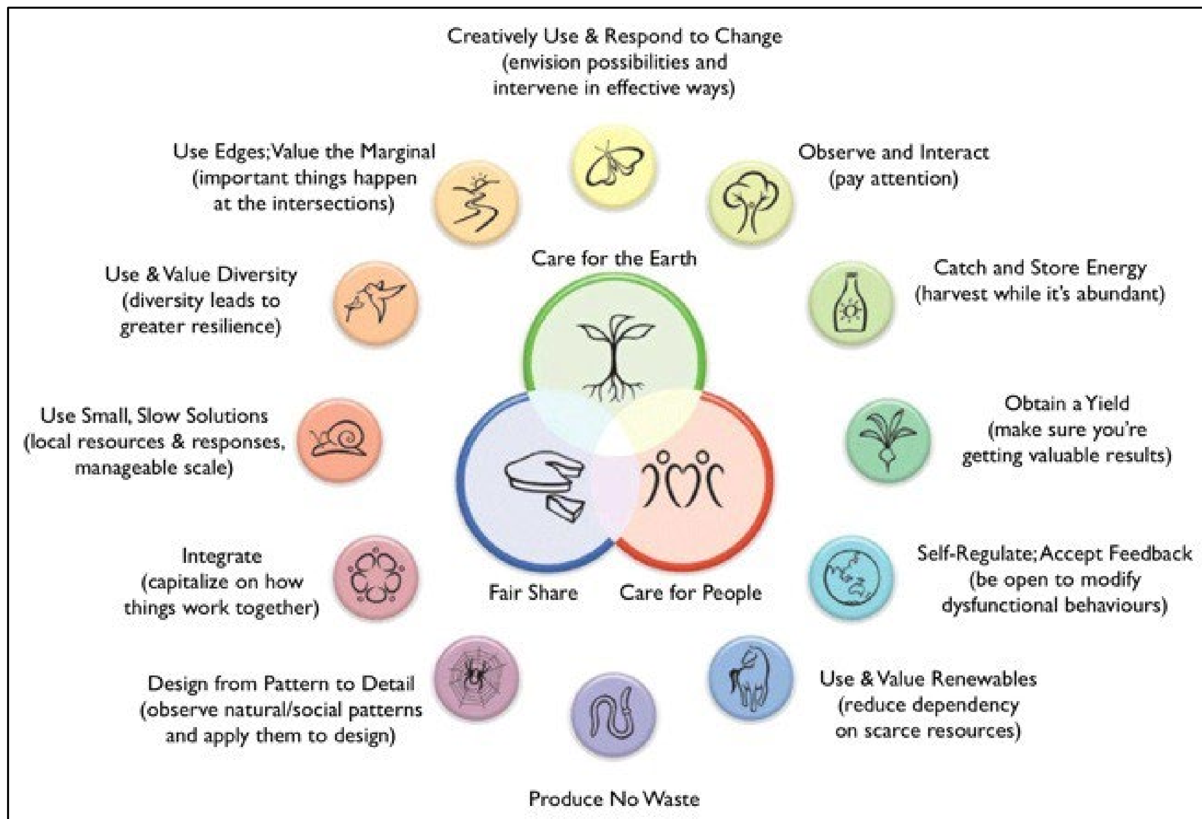


Figure 9: The 12 principles of permaculture[94]

## Regenerative agriculture

[94] https://permacultureprinciples.com/

The term “regenerative agriculture” can be traced to publications of the Rodale Institute in the 1980s and draws on a wide range of agricultural and ecological practices, but with a strong focus on soil health, emphasising minimal soil disturbance and the use of organic amendments for fertility development. Key historical proponents include Storm Cunningham[95] and Alan Savory. Regenerative agriculture appears to defy a clear and concise definition and as a more recent alternative agriculture development is undergoing evolution of principles and practises[96]. This has not hindered some major global food corporations establishing procurement-based initiatives (e.g., General Mills, Unilever and Nestle).

Regenerative agriculture and permaculture, although following similar principals for soil health, seem to be more system-based and holistic approaches than organic farming. Some of the principles advanced by these approaches go beyond earth care and ecology to include considerations around “people care and fair share”, including having a community-based approaches, reducing inputs to the farm, short local value chains and collaborative systems (figure 10).

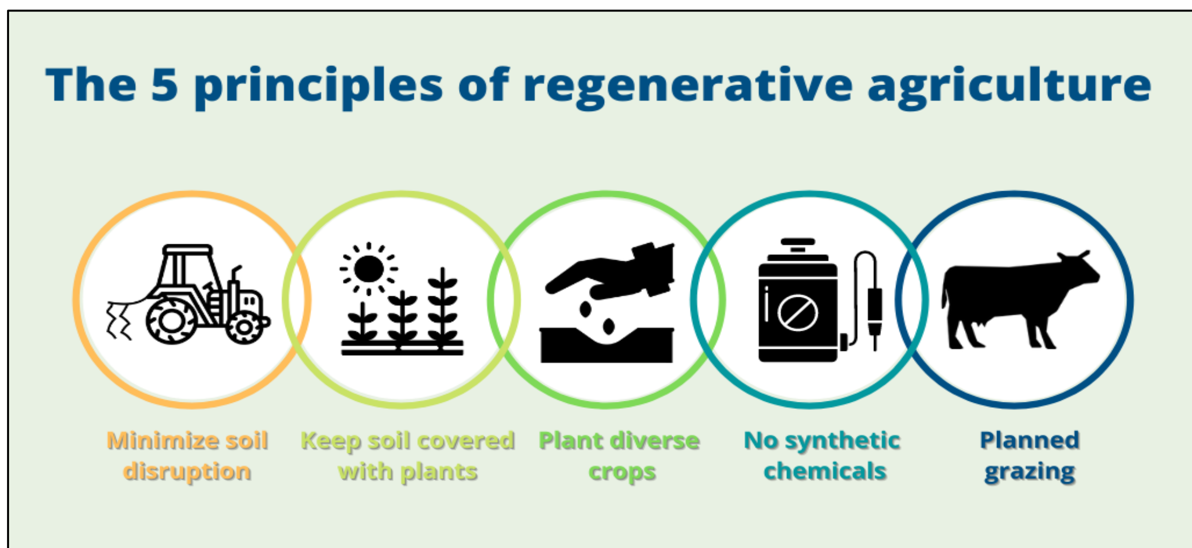


Figure 10: Five principles of regenerative agriculture

In 2021, a white paper entitled “Regenerative agriculture in Aotearoa New Zealand– research pathways to build science-based evidence and national narratives” was written for New Zealand.

[95] Cunningham, S. (2002). The Restoration Economy. Berrett-Koehler Publishers.

[96] Schreefel, L., Schulte, R. P. O., de Boer, I. J. M., Schrijver, A. P., & van Zanten, H. H. E. (2020). Regenerative agriculture – the soil is the base. Global Food Security, 26, 100404. https://doi.org/https://doi.org/10.1016/j.gfs.2020.100404

Some of the practices advocated include: [97]

a) Taking a holistic view of the whole ecological system.
b) Using biodynamic sprays to stimulate biological activity in the soil and improve retention of nutrients, such as animal wastes,
c) Stocking with several different animal species to vary grazing patterns and reduce pasture-borne parasites,
d) Widening the range of pasture species used,
e) Planting trees for multiple purposes,
f) Crop rotation designs including the use of green manures to enhance soil fertility and control weeds and plant pests,
g) Reduce the use of synthetic fertilisers,
h) Recycling organic wastes, where possible, by large scale composting,
i) Changing from chemical pest control to prevention strategies based on good plant and animal nutrition and careful cultivar selection,

Considering the “branded” alternative agricultural approaches (biodynamics, organics, permaculture and regenerative agriculture) in general they are not prevalent in New Zealand (organics covers only 0.6% of farmland), probably due to a number of interacting factors, including: lag times for certification out of conventional systems, higher production costs which are detrimental to an export-oriented production system targeting global markets, lack of sufficient premium prices in those markets to mitigate the higher production costs, and in one case active suppression to avoid arousing negative consumer perceptions around “conventionally produced” products.

New Zealand farming is generally still perceived overseas as low environmental impact compared to the rest of the world (despite attempts by competitors and green agencies to emphasise the negative impacts of long-distance transport to markets), and therefore these alternative farming approaches may not add enough “point of difference” for New Zealand products[98].

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[97] Grelet, G. A., Lang, S., Merfield, C., Calhoun, N., Robson-Williams, M., Anderson, C., Anderson, M., Apfelbaum, S., Baisden, T., Barry, M., Beare, M., & Belliss S, B. P., Bruce-Iri P, Bryant R, Buckley M, Burns E, Cavanagh J, Chan D, Clifford A, Clothier B, Conland N, Cournane-Curran F, Crampton E, Davidson M, Dewes A, Donovan M, Doolan-Noble F, Driver T, Dynes R, Fraser T, Garland C, Good H, Gordon I, Greenhalgh S, Gregorini P, Gregory R, Griffin F, Harcombe M, Harmsworth G, Holdaway R, Horrocks A, Jones J, Kerner W., King J, King W, Kirk N, Kirschbaum M, aubach J, Lavorel S, Le Heron E, Letica S, Lister C, Macmillan K, Maslen D, Mason N, Masters N, Matthews J, Mcglone M, McNally S, Mcneill S, Millard P, Minor M, Mudge P, Norton D, O’Connell S, Orwin K, Perley C, Phillips C, Pinxterhuis I, Price R, Rachel M, Rissman C, Roudier P, Saunders C, Saunders J, Schon N, Selbie D, Smith P, Stanley-Clarke N, Stephens T, Stevenson B, Stronge D, Su J, Tait P, Taitoko M, Tapsell P, Teague R, Todd J and Vernon J. (2021). Regenerative agriculture in Aotearoa New Zealand – research pathways to build science-based evidence and national narratives. White paper prepared for Our Land and Water National Science Challenge and the NEXT Foundation.

[98] (Dominati et al., 2023)

**Influence and Impacts.**

However – a deeper analysis show that corporate influences, geopolitical influences, and perceived conventional industrial primary production threats impact the growth of organic farming. Some of these include:

**Corporate Influences:**

Large corporations in the agricultural and food sectors often have significant influence and resources that can shape the growth of organics. Some of the keyways corporate influences may constrain organic farming include:

a) Market Control: Big agribusinesses and food corporations may dominate markets, exerting control over distribution channels and retail outlets. They may prioritise conventional products and invest less in the marketing and distribution of organic products, limiting consumer access and awareness.
b) Lobbying Power: Corporate interests often have substantial lobbying power, influencing agricultural policies and regulations. They may push for regulations that favour conventional agriculture over organic farming or advocate for weaker organic standards, creating barriers and challenges for organic producers.
c) Input Supply: Large corporations often have a stake in the production and supply of agricultural inputs such as seeds, fertilisers, and pesticides. They may prioritise the development and promotion of inputs tailored to conventional systems, while limiting investment in organic input research and development.

**Geopolitical Influences:** Geopolitical factors can also shape and impact the growth of organic farming, including:

a) Trade Agreements: Trade agreements between countries can impact organic farming by affecting market access, import regulations, and certification standards. Some agreements may favour conventional agriculture or impose strict regulations that make it challenging for organic farmers to compete internationally.
b) Subsidies and Support: Government policies and subsidies often heavily favour conventional agriculture, providing financial incentives and support to conventional farmers. This disparity in support can limit the growth of organic farming, making it harder for organic producers to compete on a level playing field.
c) Land Tenure and Access: Geopolitical factors, including historical injustices and land ownership issues, can affect indigenous and marginalised communities' access to land for organic farming. Land tenure challenges and unequal distribution of resources can constrain the growth of organic farming, particularly among marginalised populations.

**Perceived Conventional Industrial Threats**: Perceptions and attitudes towards organic farming and the conventional industrial agricultural model can also impact the growth of organics:

a) Scepticism and Misinformation: Some stakeholders, including consumers, policymakers, and even farmers, may hold sceptical views or have misconceptions about organic farming. These perceptions can lead to reduced demand for organic products or reluctance to transition to organic methods.
b) Industry Resistance: Conventional agriculture industries may perceive organic farming as a threat to their market share and profits. This resistance can manifest in lobbying efforts, negative campaigns against organics, or attempts to discredit organic farming practices.
c) Lack of Research and Development: Compared to conventional agriculture, organic farming may receive less funding for research and development. This disparity can limit the availability of scientific studies, innovative techniques, and solutions tailored specifically to organic farming, hindering its growth.

Overcoming these constraints and promoting the growth of organic farming often requires addressing systemic issues, advocating for supportive policies, raising awareness among consumers, and fostering collaborations between stakeholders. It is crucial to recognise the importance of sustainable and organic agriculture for environmental stewardship, human health, and the well-being of farming communities.

A key tool that can be used to negate these negative influences is Matauranga Māori.

**Alignment with indigenous rights and practices**

Alignment with indigenous rights and practices can play a crucial role in countering the corporate influences, geopolitical influences, and perceived conventional industrial threats that constrain the growth of organics. Some ways in which indigenous rights and practices can have a positive impact are:

**Cultural Preservation and Recognition**: Recognising and valuing indigenous rights, including land rights and cultural practices, contributes to preserving cultural diversity and traditional knowledge. This recognition provides a foundation for promoting and integrating indigenous agricultural practices, including organic farming, into mainstream systems.

**Community Empowerment and Ownership**: Emphasising indigenous rights means prioritising community decision-making and ownership. By empowering indigenous communities to lead and govern their organic farming enterprises, the influence of corporate and geopolitical forces can be mitigated. Indigenous communities can maintain control over their food systems, markets, and distribution networks, ensuring the growth of organics aligns with their values and needs.

**Sustainable Land and Resource Management**: Indigenous agricultural practices often prioritise sustainable land and resource management. These practices focus on regenerative and agroecological approaches, which can counter the negative impacts of conventional industrial agriculture. By promoting these practices, organic farming aligned with indigenous principles contributes to environmental sustainability and resilience.

**Knowledge Sharing and Capacity Building**: Indigenous agricultural practices encompass deep knowledge of local ecosystems and sustainable farming techniques. By integrating indigenous knowledge and practices into organic farming, there can be mutual learning and knowledge sharing between indigenous communities and the broader organic farming movement. This collaboration can enhance capacity building, research, and innovation in organic farming while respecting and valuing indigenous knowledge systems.

**Advocacy and Policy Influence**: Recognising indigenous rights includes advocating for policy changes that support sustainable agriculture, land rights, and social equity. Indigenous communities, when empowered and supported, can advocate for policies that counter corporate influences, address geopolitical barriers, and promote organic farming. Indigenous voices and perspectives can shape agricultural policies, regulations, and trade agreements, ensuring they align with principles of sustainability and social justice.

**Market Development and Value Chains**: Supporting indigenous-led organic value chains and markets can create economic opportunities and reduce dependence on conventional industrial systems. By promoting fair trade practices, direct marketing, and community-led initiatives, the growth of organics can be nurtured in ways that are consistent with indigenous values, benefiting both indigenous communities and consumers seeking sustainable and culturally appropriate food.

Overall, alignment with indigenous rights and practices provides a foundation for a more inclusive, sustainable, and resilient organic farming movement. It counters the negative influences of corporate power, geopolitical pressures, and conventional industrial threats by prioritising community empowerment, cultural preservation, environmental stewardship, and equitable policy frameworks. Such alignment recognises the importance of indigenous knowledge, values, and practices in shaping a more sustainable future for agriculture.

Two additional agricultural systems paradigms are also worth considering, ecosystem-based management and agro-ecology. Despite perhaps not having the same level of formal practitioner adoption as those noted above, they are nevertheless well researched and should be considered in any assessment of agricultural/food production approaches, set against "conventional" models[99].

**Ecosystem-based management**

Ecosystem-based management (EBM) or the "ecosystems approach" has its origins in ecological economics (a discipline developed around 1990). It recognises that the economy is a subsystem of the ecological system. Ecological economics argues that natural resources are finite, and that sustainable economic activity needs to be performed within the biophysical limits of the natural environment[100], the so-called planetary boundaries. Natural

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[100] Rockstrom, J., Steffen, W., Noone, K., Persson, A., Chapin, F. S., Lambin, E. F., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H. J., Nykvist, B., de Wit, C. A., Hughes, T., van der Leeuw, S., Rodhe, H., Sorlin, S., Snyder, P. K., Costanza, R., Svedin, U., . . . Foley, J. A. (2009). A safe operating space for humanity [10.1038/461472a]. Nature, 461(7263), 472-475. http://dx.doi.org/10.1038/461472a

resource scarcity is nowadays the limiting factor to economic development and wellbeing[101] since the environment has limited capacity to assimilate the waste products of economic activity without deleterious feedbacks, like CO2 emissions.[102]

The EBM or the "ecosystems approach" is based on the concepts of natural capital and ecosystem services. Natural capital is defined as the "stocks of natural assets that yield a flow of ecosystem goods or services into the future"[103]. The notion of natural capital comes from trying to frame the contribution of natural resources, alongside manufactured capital (factories, buildings, tools), human capital (labour, skills) and social capital (education, culture, knowledge) to the economy[104]. Ecosystem services are defined as "the benefits people obtain from ecosystems"[105]. Ecosystem services are an anthropocentric concept representing the flows of benefits coming from healthy functioning ecosystems towards the economy and fulfilling human needs and values.

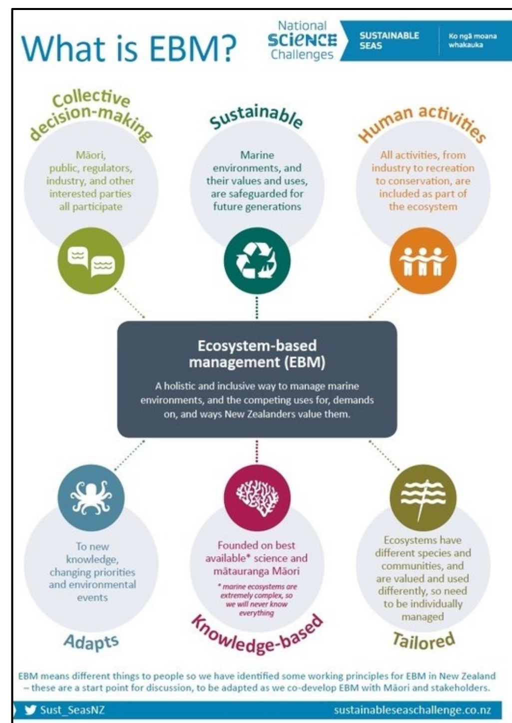


Figure 11[106]

Ecosystem services have been categorised as provisioning, regulating and cultural[107]:

Provisioning services are the "the products obtained from ecosystems" including food, fibre, wild foods, freshwater, fuel, and biochemicals.

Regulating services are defined as the regulation of ecosystem processes which enable humans to live in a stable, healthy and resilient environment. This includes flood mitigation, filtering of nutrients and contaminants, recycling of wastes, greenhouse gases mitigation or pest and diseases regulation.

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[101] Braat, L. C., & de Groot, R. (2012). The ecosystem services agenda: bridging the worlds of natural science and economics, conservation and development, and public and private policy. Ecosystem Services, 1(1), 4-15. http://www.sciencedirect.com/science/article/pii/S2212041612000162

[102] (Dominati et al., 2023)

[103] Costanza, R., & Daly, H. E. (1992). Natural Capital and Sustainable Development [Article]. Conservation Biology, 6(1), 37-46. <Go to ISI>://A1992HM02900011

[104] ibid

[105] MEA. (2005). Millennium Ecosystem Assessment: Ecosystems and Human Well-being: Synthesis. (Vol. Ecosystems and Human Well-being: Synthesis). Island Press.

[106] https://www.learnz.org.nz/sustainableseas201/discover/ecosystem-based-management

[107] ibid

Cultural services are the non-material benefits obtained from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences.

EBM is often referred to as a multi-disciplinary approach which include humans as eco-centric 'integral components' of ecosystems as opposed to separate anthropocentric external actors[108]. This appears to correspond with Māori concepts of Mauri – the life force energies that maintain growth, life and development for all things on Earth.

EBM rests on several principles:

Natural resources should be maintained and enhanced to ensure healthy functioning ecosystems, which can therefore continue to provide ecosystem services long-term to ensure people's well-being. This includes recognising that ecosystems are dynamic and constantly changing. This relates to te Ao Māori concepts of hauora, te Mana o te Whenua, Mauri, manaakitanga and whanaungatanga.

Land use choice, intensity and management should operate within the capabilities and natural boundaries of both the land and the surrounding ecosystems to which they are linked[109]. This is similar to the principles of Mauri, hauora (Hauora is a Māori philosophy of health and well-being unique to New Zealand) and mana o te whenua.

EBM needs to incorporate human use and values of ecosystems in managing natural resources, the ultimate goal being a shared vision of all key stakeholders for the management of ecosystems and natura resources (REF UN/FAO). In Te Ao Māori, this is similar to Rangatiratanga and the tikanga and kawa in place to manage natural resources, which comes from whakapapa and kinship relationship between man / tangata and the whole of te Taiao.

Ecosystem-based management (EBM) is an example of an integrative approach and can provide a range of tools for strategic farm planning and farm system design to help with decision-making and ensure the delivery of outcomes across environmental, cultural, social and economic dimensions.[110] [111] [112]

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[108] Joseph, R., Rakena, M., Jones, M. T. K., Sterling, R., & Rakena, C. (2018). The Treaty, Tikanga Māori, ecosystem-based management, mainstream law and power sharing for environmental integrity in Aotearoa New Zealand – Possible ways forward. https://sustainableseaschallenge.co.nz/sites/default/files/2019-02/MAIN%20TuhonohonoSSeas%20Final%20Report%20Nov%202018.pdf

[109] (Rockstrom et al., 2009)

[110] Dominati, E. J., Mackay, A. D., Bouma, J., & Green, S. (2016). An ecosystems approach to quantify soil performance for multiple outcomes: The future of land evaluation? [Article]. Soil Science Society of America Journal, 80(2), 438-449. https://doi.org/10.2136/sssaj2015.07.0266

[111] Dominati, E. J., Mackay, A. D., Rendel, J. M., Wall, A., Norton, D. A., Pannell, J., & Devantier, B. (2021). Farm scale assessment of the impacts of biodiversity enhancement on the financial and environmental performance of mixed livestock farms in New Zealand [Article]. Agricultural Systems, 187, Article 103007. https://doi.org/10.1016/j.agsy.2020.103007

[112] Slocombe, D. S. (1998). Lessons from experience with ecosystem-based management. Landscape and Urban Planning, 40(1), 31-39. https://doi.org/https://doi.org/10.1016/S0169-2046(97)00096-0

EBM can be significantly improved by basing it on indigenous values, principles, and practices. Incorporating indigenous perspectives can enhance the effectiveness, equity, and sustainability of EBM in the following ways:

**Holistic and Interconnected Approach**: Indigenous peoples often view ecosystems as interconnected and interdependent systems. By integrating indigenous values into EBM, a more holistic approach can be adopted, considering the social, cultural, and spiritual aspects of ecosystems alongside ecological factors. This broader perspective can lead to more comprehensive and effective management strategies.

**Traditional Ecological Knowledge** (TEK): Indigenous communities possess deep knowledge about local ecosystems, accumulated over generations. Incorporating TEK into EBM can provide valuable insights into ecosystem dynamics, species interactions, and ecosystem services. Indigenous knowledge can complement scientific knowledge, filling gaps and providing context-specific information for decision-making.

**Long-term Sustainability**: Indigenous practices often prioritise long-term sustainability, emphasising the importance of preserving and managing ecosystems for future generations. By integrating indigenous principles into EBM, there is a greater focus on conservation, restoration, and sustainable resource use. This long-term perspective ensures the resilience and viability of ecosystems.

**Adaptive Management and Flexibility**: Indigenous communities have traditionally practiced adaptive management, adjusting their practices based on changing conditions and local knowledge. Incorporating indigenous adaptive management principles into EBM allows for flexibility and responsiveness to ecological changes, climate variability, and emerging challenges.

**Participatory and Collaborative Decision-making**: Indigenous peoples have a deep connection to their lands and a strong sense of stewardship. Involving indigenous communities in decision-making processes related to EBM promotes participatory governance, meaningful engagement, and the co-production of knowledge. Collaborative approaches foster mutual learning, respect cultural diversity, and enhance the social acceptance and legitimacy of management strategies.

**Cultural and Spiritual Values**: Indigenous communities often have cultural and spiritual connections to ecosystems, viewing them as sacred and integral to their identities. Recognising and respecting these values within EBM fosters cultural preservation, community well-being, and a more inclusive and ethical approach to environmental management.

**Indigenous Rights and Land Tenure**: Recognising and respecting indigenous rights, including land and resource tenure, is essential for effective EBM. Secure land rights provide a foundation for indigenous communities to steward and manage ecosystems according to their values and practices. Strengthening indigenous land tenure systems supports self-determination and enhances the success of EBM initiatives.

To fully integrate indigenous values, principles, and practices into EBM, it is important to engage in meaningful partnerships and collaboration with indigenous communities. This involves building trust, acknowledging historical injustices, and ensuring equitable participation and benefits. By doing so, EBM can benefit from the wealth of indigenous knowledge and contribute to the conservation and sustainable use of ecosystems while respecting indigenous rights and fostering cultural diversity.

**Agro-ecology**

From a western science point of view, the most comprehensive approach to integration of all the other concepts mentioned above would be Agro-ecology. Agro-ecology is "an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems"[113]. It is integral to FAO's Common Vision for Sustainable Food and Agriculture.

Agroecology is a scientific discipline that uses ecological theory to study, design, manage and evaluate agricultural systems that are productive but also resource conserving.

Agro-ecology "seeks to optimise the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system"[114]. These are universally recognised principles within indigenous communities, including Māori.

[113] (FAO, 2019)

[114] ibid

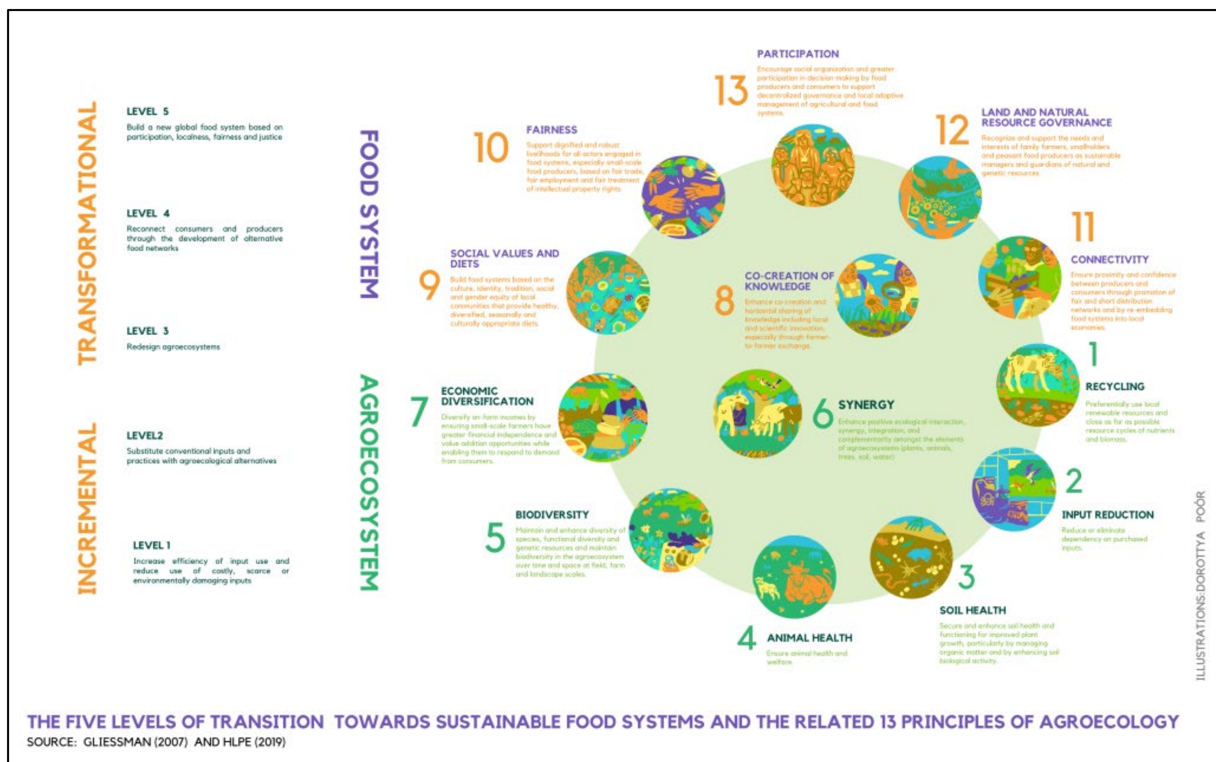


Figure 12 [115]: Agro-Ecology principles

**Summary**

Alternative approaches to western agriculture appear to have a number of features in common:

A claim to being more holistic, including an ever-expanding envelope of concern (soils, ecosystems, social-ecological systems, the globe, the cosmos),

Indicators of success emphasises concepts of health and well-being in contrast to concepts of productivity and efficiency,

The development of provenance, authenticity and traceability branding, to distinguish from other production worldviews.

While they reference traditional (pre-industrial) methods, they do not strongly recognise or acknowledge indigenous knowledge in terms of its place-based nature. Philosophies and systems are considered applicable anywhere (in common with conventional agriculture based on western research).

The intergovernmental science-policy platform for biodiversity and ecosystem services (IPBES) has recognised that “indigenous peoples and local communities possess detailed

[115] https://www.agroecology-europe.org/the-13-principles-of-agroecology/

knowledge on biodiversity and ecosystem trends. This knowledge is formed through their direct dependence on their local ecosystems, and observations and interpretations of change generated and passed down over many generations, and yet adapted and enriched over time"[116]. IPBES also points out that [indigenous people] "are often better placed than scientists to provide detailed information on local biodiversity and environmental change […]". Following this reasoning in a New Zealand context, it makes sense to utilise indigenous knowledge such as Mātauranga Māori, to drive behaviour change and guide the design of future agro-ecosystems in New Zealand.[117]

However - being indigenous typically involves living and practicing indigeneity within a specific cultural context.

When discussing indigenous values, principles, and practices in relation to ecosystem-based management or any other topic, it is essential to consult and engage directly with indigenous communities and individuals. Indigenous perspectives should be sought through respectful and collaborative processes, ensuring that their voices and knowledge are represented authentically and that their self-determination and rights are respected.

It is important to recognise that indigenous knowledge is diverse and specific to each community, and that no single indigenous perspective can represent the entirety of indigenous experiences.

Engaging with indigenous communities and incorporating their perspectives into environmental management frameworks requires building trusting relationships, respecting cultural protocols, and prioritising indigenous self-determination. This involves recognising and addressing historical and ongoing injustices, supporting indigenous rights and land tenure, and collaborating in ways that empower indigenous communities to lead and participate in decision-making processes. By valuing and incorporating indigenous knowledge and perspectives, more inclusive and effective approaches to ecosystem-based management can be achieved.

## Design Principles for Trans-cultural Integrated Farms

For NZ going forward, we believe the goal is to develop trans-cultural farm systems, where learnings from both Mātauranga Māori and western science are integrated both at the design, operational and tactical levels, which prioritise the protection of Papatūānuku, and provision local communities, before traded surplus is used to enhance regional and global relationships and generate revenue.

We hypothesise that trans-cultural farm systems, will build the holistic resilience required in the primary production industry, that cannot be achieved with current exploitative export-

[116] https://ipbes.net/indigenous-local-knowledge

[117] (Dominati et al., 2023)

oriented commodity systems. The change in paradigm should generate significant improved wellbeing, an economic uplift in areas of unacceptable socio-economic deprivation, new high value skills, new technology uptake, unique production enterprises and increased ecological biodiversity.

As Mātauranga Māori is a very holistic knowledge system, it makes sense that this should drive the design principles for a trans-cultural farm systems and to imagine implementation starting first on Māori land, which can then be adopted more broadly across Aotearoa.[118]

The willingness of Māori to share traditional knowledge should not be assumed, especially given the colonial history of Aotearoa and the on-going intergenerational trauma suffered by whanau and hapu over the last 180 years. Co-designing a science research methodology that respects and prioritises indigenous knowledge and practices requires a collaborative and inclusive approach. Some key considerations and steps to foster meaningful engagement and ensure indigenous knowledge remains paramount are:

**Building Relationships and Trust**: Establishing strong relationships and trust between the researchers and indigenous communities is foundational. This involves engaging in open and respectful dialogue, actively listening to indigenous perspectives, and recognising the value and expertise of indigenous knowledge holders.

**Understanding Cultural Context and Values**: Researchers need to invest time in understanding the cultural context, values, and protocols of the indigenous communities they are working with. This includes learning about the specific knowledge systems, traditional practices, and protocols for accessing and sharing indigenous knowledge.

**Co-Design and Co-Development**: Collaboratively design the research methodology with indigenous community members and knowledge holders. This process should ensure that indigenous voices are central to decision-making, and their knowledge and practices are integrated into the research framework.

**Recognising and Respecting Indigenous Rights**: Ensure that the research process upholds indigenous rights, including rights to self-determination, ownership of indigenous knowledge, and land tenure. Researchers should seek informed consent, respect privacy, and protect cultural intellectual property.

**Prioritising Indigenous Knowledge**: Throughout the research process, prioritise and centre indigenous knowledge and practices. Indigenous perspectives should guide research questions, data collection, analysis, and interpretation. Researchers should be open to learning from indigenous knowledge holders and integrating their knowledge into the research outcomes.

**Two-Way Learning and Knowledge Exchange**: Promote a two-way learning process where researchers and indigenous communities share knowledge and learn from each other. This

[118] (Dominati et al., 2023)

reciprocity strengthens the collaborative nature of the research and ensures that both scientific and indigenous knowledge systems benefit from the exchange.

**Capacity Building and Empowerment**: Provide opportunities for capacity building within indigenous communities, allowing them to engage in the research process actively. This can involve training community members in research methods, data collection, and analysis, fostering community ownership of the research.

**Ethical Considerations and Beneficial Outcomes**: Ensure that the research respects ethical guidelines and aims to produce beneficial outcomes for indigenous communities. Researchers should be transparent about their intentions, the potential impacts of the research, and how the findings will be shared and used.

**Long-Term Collaboration and Relationship Maintenance**: Establish long-term partnerships with indigenous communities beyond the specific research project. Continued collaboration can support ongoing knowledge exchange, capacity building, and the co-development of solutions that align with indigenous values and needs.

By following these principles and practices, researchers can co-design a science research methodology that respects and values indigenous knowledge and practices, ensuring that it remains paramount throughout the research process. This collaborative approach promotes cultural empowerment, knowledge sharing, and meaningful engagement, leading to more inclusive and relevant research outcomes.

Within te Ao Māori, whakapapa (genealogy) links all living things. Natural ecosystems are born of Ranginui (sky father) and Papatūānuku (earth mother) and guided via all their children. Natural resources are derived from Io, the creation energy, and the Atua (deities) that control and nurture these elements. The degradation of these resources, which have a kinship relationship to tangata whenua (people of the land), is considered sacrilegious. Shifts in the mauri of any part of the environment — for example, through use — would cause shifts in the Mauri of immediately related components[119]. As a result, the whole system would eventually be affected.

One of the founding principles of EBM and agro-ecology (principles 5-biodiversity and 6-synergy) is that ecological systems are complex and interconnected and that complexity needs to be recognised. Interactions between organisms and their environment take place constantly and everywhere at multiple scales and are critical to the resilience and regenerative capacity of ecosystems. It is because of this connectivity that a change in land use affects water and air quality, as well as all the other elements of natural or managed ecosystems. EBM recognises that degradation of natural capital stocks leads to negative impacts on the provision of all ecosystem services, which in turn impacts human well-being.

Te Ao Māori therefore goes one step further than EBM in demonstrating not only the connections between natural resources and people, but also the genealogical origins,

[119] Marsden, Māori, and Te Aroha Henare. Kaitiakitanga: A definitive introduction to the holistic world view of the Māori. Ministry for the Environment, 1992

whakapapa, of these connections tied to Papatūānuku. The kinship relationship Māori have with all living things and with Papatūānuku as an Atua as well as in specific locations highlights the primary difference with utilitarian western value systems.

The concept of tau utuutu (reciprocity), forms an underpinning of kaitiakitanga (guardianship of the land) in tikanga Māori. The tau utuutu brings with it a privilege equal to its obligation, which enhances mana and rewards the kaitiaki (guardian, caregiver) with the cultural identity, connection and mauri to thrive. Acting as a kaitiaki bestows mana on the guardian as it recognises and enhances the mana of the whenua and all-natural resources. By taking adequate care of the land, the caregiver recognises [and enhances] the mana of the land, as well as their own.

Mātauranga Māori embraces notions of stewardship of the land based on kinship and a respect for the maternal nurturing bestowed by Papatuanuku. EBM also aims to maintain or enhance the condition of natural resources through careful management, which doesn't recognise the person hood of all things within the natural living world.

Therefore, principles such as Mana o te whenua, kaitiakitanga, and mana whakapapa, encompass agro-ecology principles such as soil health or synergy. Looking after the farm's natural resources, maintaining, and enhancing them, should be a priority, not only because of their intrinsic value, but because of the reciprocity between the health of the natural environment and the health and well-being of people.

**Intergenerational equity**

Intergenerational equity bestows on tangata and indigenous communities their identity and connection – one to the other and to the whenua itself. It carries with it an inherent obligation born of whakapapa connections between nature and people, which drives the kaitiaki function.  This drives the need for the sustainable use of resources within te ao Māori (the Māori world). Such protected or enhanced landscapes within Māoridom cannot be owned, so they must be passed on to the coming generations, ensuring integrity of the intergenerational equity. For Māori, the land owns the people, not the other way around. Te Ao Tūroa (enduring world) and taonga tuku iho (heritage, cultural property) articulate a desired intergenerational equity for natural, treasured resources, passed from one generation to the next. The legacy value in this equity is the obligation to leave the inheritance in a better condition or state than that which is inherited. [120]

Intergenerational equity and cultural equity are therefore important concepts that are closely linked to the ecological function of a society and the environment. These concepts are derived from ecological function in the following ways:

Intergenerational equity refers to the fair and just distribution of resources and benefits between different generations. It recognises that the actions and decisions made by the current generation can have long-lasting effects on future generations. The concept of intergenerational equity is derived from the understanding that ecological systems provide

[120] (Dominati et al., 2023)

essential resources, such as clean air, water, and biodiversity, that are necessary for the well-being and survival of both present and future generations.

Ecological function plays a crucial role in intergenerational equity by maintaining the sustainability and resilience of ecosystems. Ecosystems provide a wide range of services, including food production, climate regulation, water purification, and habitat provision, which directly impact human societies. By recognising the importance of these services, intergenerational equity calls for responsible and sustainable management of natural resources, ensuring that future generations have equitable access to these resources.

Preserving and enhancing the ecological function of ecosystems is vital for intergenerational equity because it ensures the availability of vital resources and services for future generations. By taking into account the long-term consequences of our actions on the environment, we can make decisions that promote sustainability and secure the well-being of future generations.

Cultural equity relates to the fair representation, participation, and inclusion of diverse cultural communities within society. It recognises the importance of cultural heritage, traditions, and identities, and aims to create a society where all cultural groups have equal opportunities to express, preserve, and share their cultural practices.

Ecological function influences cultural equity through its impact on the availability and accessibility of natural resources that are integral to cultural traditions and practices. Many cultural communities have deep connections with their local ecosystems, relying on them for food, medicine, and spiritual or ceremonial purposes. When ecosystems are degraded or destroyed, it not only affects the ecological function but also disrupts the cultural practices and identities associated with those ecosystems.

By protecting and restoring ecological function, cultural equity can be promoted. Preserving biodiversity, natural landscapes, and traditional ecological knowledge allows cultural communities to maintain their unique cultural practices and sustain their relationships with the environment. This recognition of cultural diversity and the link between cultural heritage and ecological function contributes to the development of inclusive and equitable societies.

In summary, intergenerational equity and cultural equity are derived from the ecological function of ecosystems. Recognising the importance of ecological systems and their services helps us make informed decisions to ensure the fair distribution of resources and benefits between different generations and the preservation of diverse cultural practices within society.

Western agriculture is based mainly on private ownership of land. land is owned by an entity with autonomy over its use. The system is founded on a private enterprise model. Ownership generally rests with a small number of individuals with needs far less than the land can support. Concern for sustainability is largely limited to concerns internal to the property and system. Ownership of a production system defines the self-identity of the owner.

The ownership of property and production systems and the legal rights associated with them can differ significantly between non-indigenous landowners and indigenous rights under traditional lore. Key distinctions are:

**Concept of Ownership**

Non-indigenous landowners typically view property ownership as an individual or collective right that is based on legal frameworks established by the state. They may acquire land through purchase, inheritance, or other legal mechanisms, and their ownership is often recognised and protected by national or regional laws. Ownership rights are generally based on the concept of private property, which grants individuals or groups exclusive control and use of the land.

In contrast, indigenous rights under traditional lore are often rooted in collective ownership and stewardship of the land. Indigenous communities have longstanding relationships with their ancestral territories, considering them as integral parts of their cultural, social, and spiritual identities. Indigenous land rights are often based on customary or traditional laws, which have been developed and maintained through generations. These rights are rooted in the understanding that the land is not simply a commodity to be bought and sold but a vital part of indigenous people's existence and survival.

**Production Systems**

Non-indigenous landowners typically operate within production systems that are driven by market economies and profit-oriented models. The primary focus is often on maximizing economic returns from the land. These systems are guided by legal regulations, market forces, and individual or collective decision-making processes aimed at achieving economic objectives.

Indigenous communities, on the other hand, often have distinct traditional production systems that are deeply connected to their cultural practices and ecological knowledge. These systems are often based on sustainable land management practices and the understanding of the interdependence between humans and the natural environment. Indigenous production systems prioritise long-term sustainability, community well-being, and the preservation of cultural heritage, rather than solely focusing on economic gain.

**Legal Rights and Self-Identity**

Non-indigenous landowners typically have legal rights that are recognised and enforced by national or regional laws. These legal rights define their relationship with the land and provide them with the authority to make decisions about land use, development, and other activities. Non-indigenous individuals may also have legal rights to the products and resources derived from the land.

Indigenous rights under traditional lore are often based on a different legal framework. They may include collective rights to access and use ancestral lands, maintain cultural practices, and preserve traditional knowledge.

These rights are often closely tied to the self-identity of indigenous communities, as the land is integral to their cultural, spiritual, and social existence. Indigenous should be recognised and protected under national laws, international conventions, or through mechanisms that acknowledge the unique relationship between indigenous peoples and their lands – but in many cases they are not.

This privilege / obligation dynamic binds the current, the past and the coming generations. The principle of Te Ao Tūroa refers to sustaining resources/taonga at a rate and in an acceptable condition that ensures benefits from the use and protection of taonga bestowed, across multiple generations. This indigenous concept gained traction in the Western world with the publication of the Brundtland report of the World Commission on Environment and development "Our Common Future"[121] defined "Sustainable development" as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

**Te Ao Tūroa**

Te Ao Tūroa is a Māori concept that encapsulates the holistic worldview and understanding of sustainability within Māori culture and traditions. It refers to the Māori worldview and the interconnectedness of all elements of the natural and spiritual world. Te Ao Tūroa is rooted in the principles of kaitiakitanga (guardianship) and whakapapa (genealogy), which guide Māori relationships with the environment and future generations.

Māori believe that Te Ao Tūroa has superiority over non-indigenous principles of sustainability because if the following:

Figure 13[122]

**Holistic Approach**: Te Ao Tūroa takes a holistic approach to sustainability by recognising the interconnections between the physical, spiritual, and cultural realms. It acknowledges that the health and well-being of the environment are intrinsically linked to the health and well-being of people. This holistic perspective fosters an understanding that environmental sustainability cannot be achieved in isolation from social and cultural aspects. In contrast, non-indigenous principles of sustainability often tend to focus primarily on environmental aspects, overlooking the broader social and cultural dimensions.

[121] Brundtland, G. (1987). Report of the World Commission on Environment and Development: Our Common Future. (United Nations General Assembly document A/42/427, Issue. https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf

[122] Ngā Uri o te Ngahere Trust 2023

**Kaitiakitanga**: Central to Te Ao Tūroa is the principle of kaitiakitanga, which emphasises the responsibility and stewardship that Māori have towards the environment. Kaitiakitanga recognises that humans are not separate from nature but rather are part of a wider system in which they have a duty to protect and care for the environment. This principle promotes a sense of active engagement, respect, and reciprocity with the natural world. Non-indigenous principles of sustainability may lack the depth of this spiritual connection and the profound sense of responsibility towards the environment that kaitiakitanga embodies.

**Whakapapa**: Whakapapa, the concept of genealogy, plays a significant role in Te Ao Tūroa. It acknowledges the interconnectedness and ancestral relationships between humans, the land, and all living beings. Whakapapa recognises that Māori have a deep ancestral connection to the land, and this connection carries responsibilities to preserve and pass on cultural and environmental knowledge for future generations. This perspective adds a temporal dimension to sustainability, highlighting the intergenerational aspect of environmental stewardship. Non-indigenous principles of sustainability may not encompass this ancestral and intergenerational perspective as deeply.

**Cultural Diversity and Local Knowledge**: Te Ao Tūroa recognises the importance of cultural diversity and local knowledge systems in achieving sustainability. Māori culture and traditions hold valuable knowledge about ecosystems, resource management, and sustainable practices that have been accumulated over generations. Embracing and integrating this knowledge into sustainability efforts can lead to more contextually appropriate and effective solutions. Non-indigenous principles of sustainability may overlook the significance of diverse cultural perspectives and traditional knowledge, limiting the potential for comprehensive and inclusive sustainability strategies.

EBM argues that future generations have the same right as the current generation to access abundant and healthy natural resources. It promotes shifting from models of economic growth to models of steady-state economy[123], where natural resources are not harvested to depletion but rather maintained and enhanced for other generations to be able to use. Most people would acknowledge a moral obligation to future generations, particularly as people who are not yet born can have no say in decisions taken today, which may affect their wellbeing in the future.

## The Principles of Agro-ecology

Principles of agro-ecology such as fairness and participation, start touching on equity and connections between producers and consumers but are missing the inter-generational lens.

[123] Daly, H. E. (1993). Steady-State Economics: A New Paradigm. New Literary History, 24(4).

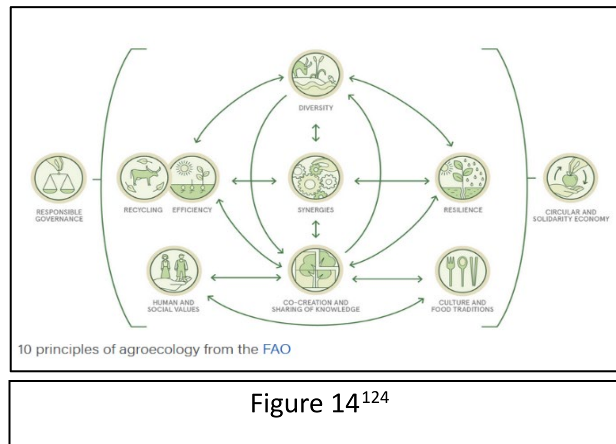


Figure 14[124]

Most importantly – the geo-political elements of agro-ecology are critical to Māori in their quest to regain control over their own lands.

These geo-political elements of agro-ecology can play a significant role in supporting indigenous peoples' rights to maintain and develop their lands in accordance with their traditions via:

**Recognition of Land Rights**: Agro-ecology promotes a shift towards more sustainable and regenerative agricultural practices that align with indigenous peoples' traditional knowledge and land management systems. This includes recognising and respecting indigenous land rights and ownership, which are crucial for maintaining and developing their lands in accordance with their traditions. Geo-political support for agro-ecology can involve legal frameworks that protect indigenous land rights, ensure land tenure security, and recognise indigenous governance systems over their territories.

**Indigenous Participation and Decision-making**: Geo-political support for agro-ecology should prioritise indigenous participation and decision-making in land and resource management. This involves empowering indigenous communities to have a meaningful voice in policies, planning processes, and decision-making related to agricultural practices and land use. Indigenous knowledge and perspectives should be incorporated into governance structures and institutions to ensure that their rights, traditions, and sustainable land management practices are respected and integrated into agro-ecological initiatives.

**Protection of Traditional Knowledge**: Agro-ecology recognises the value of indigenous traditional knowledge in sustainable agricultural practices. Geo-political support for agro-ecology can include measures to protect and promote indigenous traditional knowledge related to land management, seed saving, agroforestry, and biodiversity conservation. This includes intellectual property rights frameworks that respect and safeguard indigenous knowledge and ensure that indigenous peoples have control over their traditional knowledge and benefit from its use.

[124] https://www.iatp.org/agroecology-key-agricultural-resilience-and-ecosystem-recovery

**Capacity Building and Technical Support**: Supporting indigenous peoples' rights to maintain and develop their lands in accordance with their traditions through agro-ecology requires providing capacity building and technical support. This can include training programs, knowledge exchange platforms, and access to resources, tools, and technologies that are appropriate for indigenous agricultural practices. Assistance should be provided in a culturally sensitive manner, respecting indigenous autonomy and self-determination.

**Access to Markets and Fair Trade**: Geo-political support for agro-ecology can help create equitable market opportunities for indigenous farmers and producers. This can involve supporting initiatives that promote fair trade, local markets, and value chains that recognise the unique cultural and ecological qualities of indigenous products. Providing access to markets and ensuring fair prices for indigenous agricultural products can contribute to the economic viability of indigenous communities and their ability to sustain their lands and traditions.

By utilising these geo-political elements within agro-ecological approaches, indigenous peoples' rights to maintain and develop their lands in accordance with their traditions can be reinforced. It requires a collaborative and inclusive approach that recognises the importance of indigenous knowledge, land rights, self-determination, and cultural resilience in the pursuit of sustainable agricultural systems and a just transition.

**Place based Collective Decision making:** The boundaries of the rohe are a foundational part of a hapu for Māori. The history and traditional knowledge about the area, gathered over hundreds of years form the basis of kaitiakitanga and how people interact with the land through tikanga and kawa.

Reid and Rout[125] noted that traditionally Māori "possessed complex overlapping governance and property right regimes that reflected ecological processes and kin-group factors". Spatial jurisdictions were based on ecological and temporal factors and therefore varied. Governance regimes changed with changes in ecological processes and social patterns of kin-group association. Reid and Rout[126] concluded that because of such mechanisms, tikanga Māori (Māori protocols) could be considered as a guide regarding the participatory processes of EBM[127].

Māori believe that participatory processes of Ecosystem-Based Management (EBM) can be enhanced by incorporating and respecting tikanga Māori, which refers to Māori customs, protocols, and traditional practices on the following manner:

**Indigenous Knowledge Integration**: Tikanga Māori emphasises the importance of indigenous knowledge and traditional practices related to land, water, and natural resources. Integrating tikanga Māori into EBM involves recognising, respecting, and

[125] Reid, J., & Rout, M. (2020). The implementation of ecosystem-based management in New Zealand – A Māori perspective [Article]. Marine Policy, Article 103889. https://doi.org/10.1016/j.marpol.2020.103889

[126] ibid

[127] ibid

incorporating Māori traditional ecological knowledge (TEK) and wisdom into decision-making processes. This includes engaging with Māori elders, experts, and knowledge holders to access and incorporate their insights and perspectives on ecosystem management, species behaviour, resource use, and conservation practices.

**Co-Management and Co-Governance**: Tikanga Māori emphasises collective decision-making, consensus-building, and community participation. Incorporating tikanga Māori into EBM involves adopting co-management and co-governance models that recognise and empower Māori communities as partners in decision-making processes. This means involving Māori iwi (tribes), hapū (sub-tribes), and whānau (families) in collaborative governance structures, enabling them to actively contribute to the development and implementation of management plans, policies, and initiatives.

**Cultural Protocols and Practices**: Tikanga Māori involves specific cultural protocols, practices, and ceremonies that guide relationships with the environment and promote sustainability. Integrating tikanga Māori into EBM includes respecting and incorporating these protocols into participatory processes. This can involve conducting pōwhiri (traditional welcoming ceremonies), observing proper karakia (prayers) and tikanga (customs) when entering or interacting with specific areas, and incorporating cultural protocols for resource harvesting or utilisation.

**Relationship Building and Trust**: Tikanga Māori places a strong emphasis on building relationships, fostering trust, and nurturing reciprocal obligations. Enhancing participatory processes in EBM through tikanga Māori involves investing time and effort in building relationships with Māori communities, iwi, and hapū. This includes engaging in meaningful consultation processes, facilitating open and honest dialogue, and establishing mechanisms for ongoing communication and engagement. Building trust is vital for effective participation and collaboration, as it helps to ensure that Māori perspectives are valued and incorporated into decision-making processes.

**Inclusive Decision-Making Spaces**: Tikanga Māori recognises the importance of creating inclusive decision-making spaces that allow diverse voices and perspectives to be heard. Incorporating tikanga Māori into EBM involves creating culturally safe and respectful environments for Māori participants. This includes fostering open dialogue, actively listening to Māori voices, and ensuring that Māori participants feel empowered and supported in expressing their views. It may also involve adapting meeting formats to align with Māori cultural practices, such as incorporating waiata (songs) and hui (group discussions).

**To Summarise**

Enhancing the participatory processes of EBM through the integration of tikanga Māori involves recognising and respecting Māori traditional knowledge, adopting co-management models, incorporating cultural protocols, building relationships based on trust, and fostering inclusive decision-making spaces. By valuing and incorporating tikanga Māori, EBM can benefit from the unique perspectives and insights of Māori communities, contributing to more holistic and culturally appropriate ecosystem management.

Western approaches, including farm systems, used to be designed to be transferable to any location, which has led to severe negative environmental impacts, because different landscapes have different capabilities to absorb emissions. Therefore, a deep rethink is needed when designing farm system, to ensure they fit within the ecological boundaries of the environment they operate in.

Land managers should know their land and its history to understand better it's strength and weaknesses. Māori Place based Collective Decision-making Is based on history and ecological processes learnt over centuries.

Historically collective governance, used to aim at feeding the whanau and hapu first and then trading surplus as opposed to western systems, driven by production for markets and based on efficiency and low cost. Going back to such a provisioning model has been identified as a priority for a great number of Māori agri-businesses, which aligns to agro-ecology principles of economic diversification and social values and diets.[128]

A short and values-based supply chain [born of the above] can bring several benefits to various stakeholders involved, including:

**Environmental Sustainability**

**Reduced carbon footprint**: Shorter supply chains generally require less transportation, leading to lower greenhouse gas emissions and reduced environmental impact.

Figure 15[129]

**Local sourcing**: A values-based supply chain often prioritises sourcing materials and products from local producers, promoting regional sustainability and reducing the need for long-distance transportation.

**Conservation of resources**: By emphasising sustainable practices and reducing waste, a values-based supply chain can contribute to the conservation of natural resources and ecosystems.

**Social and Economic Impact:** Support for local economies: A short and values-based supply chain can stimulate local economies by supporting small-scale and local producers. This helps create jobs, fosters entrepreneurship, and keeps money circulating within the community.

[128] (Dominati et al., 2023)

[129] https://www.businesswire.com/news/home/20170426006354/en/SpendEdge-Highlights-the-Benefits-of-Short-Supply-Chains

**Fair trade and ethical practices**: A values-based supply chain places importance on fair trade, social responsibility, and ethical practices, ensuring that workers receive fair wages, safe working conditions, and humane treatment.

**Community development**: A localized supply chain allows for stronger connections between producers, consumers, and communities. It can foster community development by supporting social initiatives, cultural preservation, and community empowerment.

**Quality and Transparency**: Enhanced product quality: A shorter supply chain often allows for greater control and oversight, leading to improved product quality and freshness.

**Increased transparency**: A values-based supply chain emphasises transparency and traceability, enabling consumers to have a better understanding of the origin, production processes, and ingredients of the products they purchase.

**Consumer trust and loyalty**: When consumers are confident that a supply chain aligns with their values, it can build trust and foster long-term loyalty.

**Innovation and Adaptability**:

**Flexibility and agility**: A shorter supply chain can be more responsive to changing market demands and consumer preferences, allowing for quicker adaptations and innovation.

**Collaboration and knowledge sharing**: A values-based supply chain often encourages collaboration and knowledge exchange among stakeholders, fostering innovation, and the sharing of best practices.

**Health and Well-being**

**Access to fresh and nutritious products**: A localised supply chain can provide consumers with access to fresh, locally grown produce and food products, promoting healthier diets and improved well-being.

**Reduced exposure to harmful substances**: Values-based supply chains may prioritise organic, natural, or sustainably produced goods, reducing consumers' exposure to harmful chemicals or additives.

It's important to note that the benefits can vary depending on the specific values, principles, and goals of a given supply chain. However, in general, a short and values-based supply chain has the potential to positively impact the environment, society, local economies, product quality, transparency, innovation, and overall well-being.

Specifically - Values-based and shorter supply chains have the potential to generate social, cultural, and economic equality, which can directly impact deprivation in several ways.

By prioritising fairness, community development, cultural preservation, access to quality food, and social cohesion, these supply chains can contribute to reducing deprivation and promoting more equitable and inclusive societies – via:

**Economic Empowerment**:

**Supporting local producers**: Shorter supply chains prioritise sourcing products from local producers, especially small-scale and marginalised producers. This provides them with market access, economic opportunities, and the ability to generate income, which can help lift them out of poverty and reduce deprivation.

**Fair trade practices**: Values-based supply chains often emphasise fair trade principles, ensuring that producers receive fair wages and equitable working conditions. This promotes economic equality by addressing exploitative practices and empowering producers to improve their livelihoods.

**Community Development**:

**Strengthening local economies**: Shorter supply chains contribute to local economic development by keeping money within the community. This can lead to increased job creation, entrepreneurship, and income distribution, reducing disparities and improving overall well-being.

**Empowering marginalised communities**: Values-based supply chains often prioritise working with marginalised communities, such as indigenous groups or disadvantaged populations. By providing them with opportunities for participation and economic engagement, these supply chains can empower these communities and help alleviate deprivation.

**Cultural Preservation**:

**Promoting cultural heritage**: Values-based supply chains may prioritise products and practices that are rooted in cultural heritage and traditional knowledge. This not only supports the preservation of cultural diversity but also contributes to the socio-cultural well-being of communities, reducing cultural deprivation.

**Recognition and respect for cultural rights**: Values-based supply chains can incorporate mechanisms to recognise and respect the cultural rights of communities. This includes acknowledging indigenous knowledge systems, protecting cultural expressions, and fostering cultural exchange, which can strengthen cultural identities and reduce marginalisation.

**Access to Healthy and Nutritious Food**:

**Local and sustainable food production**: Shorter supply chains prioritise local sourcing, which can improve access to fresh and nutritious food for communities. This can have a direct impact on reducing food insecurity, malnutrition, and related health issues, addressing deprivation in terms of food and health.

**Encouraging sustainable agricultural practices**: Values-based supply chains often promote sustainable farming practices, including organic or regenerative agriculture. By supporting environmentally friendly and healthier food production, these supply chains contribute to overall well-being and equitable access to quality food.

**Social Cohesion and Inclusion**:

**Community engagement and participation**: Values-based supply chains foster community engagement by involving stakeholders in decision-making processes and creating spaces for dialogue and collaboration. This can enhance social cohesion, inclusivity, and active participation, reducing social deprivation.

**Building trust and relationships**: Values-based supply chains prioritise transparency, fairness, and accountability, which can build trust between producers, consumers, and communities. Trust is a crucial element in fostering social connections, reducing marginalization, and addressing social deprivation.

Using tikanga can enhance the provenance value and cultural brand opportunities open to Māori. An indigenous provenance story can add significant uplift in revenue drawn from the sale of produce for several reasons:

**Unique Selling Proposition**: An indigenous provenance story adds a unique and compelling element to the brand's identity. It differentiates the product from others in the market by highlighting the cultural heritage, traditional knowledge, and deep connection to the land and community. This uniqueness can attract consumers who value authenticity, cultural significance, and supporting indigenous communities via:

**Consumer Trust and Authenticity**: Consumers are increasingly seeking products that align with their values, including those related to cultural diversity, sustainability, and supporting marginalised communities. An indigenous provenance story provides an authentic narrative that resonates with conscious consumers. It builds trust by showcasing the brand's commitment to respecting indigenous values, traditions, and sustainability practices, fostering a deeper connection with consumers.

**Premium Pricing**: Products with an indigenous provenance story often command premium pricing. The combination of unique cultural value, traditional knowledge, and sustainable production methods can justify higher prices. Consumers are often willing to pay more for products that are ethically sourced, support indigenous communities, and have a story that adds value beyond the physical product itself.

**Increased Market Demand**: The growing interest in indigenous cultures, sustainable practices, and cultural diversity has created a market demand for products with an indigenous provenance story. As consumers become more conscious of the social and environmental impact of their purchasing decisions, brands that embrace indigenous values and practices can attract a wider customer base and expand market reach.

**Positive Social Impact**: When consumers purchase products with an indigenous provenance story, they contribute to the economic empowerment and well-being of indigenous communities. This resonates with consumers who prioritise supporting marginalised communities and reducing social inequities. The positive social impact associated with the purchase of these products further enhances their appeal and justifies the uplift in revenue.

**Cultural Appreciation and Education**: An indigenous provenance story provides an opportunity for consumers to engage with and learn about indigenous cultures, traditions,

and values. This fosters cultural appreciation, cross-cultural understanding, and education. Brands that actively promote cultural awareness and celebrate indigenous heritage through their products create a deeper emotional connection with consumers, leading to increased loyalty and repeat purchases.

It's important to note that the uplift in revenue resulting from an indigenous provenance story depends on effective branding, marketing, and communication strategies. Authenticity, transparency, and genuine partnerships with indigenous communities are crucial to ensuring that the values represented in the story are reflected in the entire production process. When the values become the matrix that defines and manages production, it strengthens the brand's credibility, enhances consumer trust, and amplifies the revenue potential from the sale of the produce.

In the table below (table 1) the thirteen principles of agro-ecology, as described by Wezel et al.[130] are listed and we comment on the links to similar principles from Te Ao Māori and discuss how Te Ao Māori can operationalise the integration of these principles for a farm system.

[130] Wezel, A., Herren, B. G., Kerr, R. B., Barrios, E., Gonçalves, A. L. R., & Sinclair, F. (2020). Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review. Agronomy for Sustainable Development, 40(6), 40. https://doi.org/10.1007/s13593-020-00646-z

| | Agro-Ecology Principle | Definition | Te Ao Māori principle | Definition |
|---|---|---|---|---|
| 1 | Recycling | Preferentially use local renewable resources and close as far as possible resource cycles of nutrients and biomass. | Tau utuutu whanaungatanga. | Recognise the Mana of all elements and resources throughout the use cycle.<br>No waste: TAM principles used by Māori ensured that the Mana and the Mauri of the whenua was maintained, especially through the efficient use move organic material within provisioning systems [for example - organic fertiliser.] |
| 2 | Input reduction | Reduce or eliminate dependency on purchased inputs. | Whanaungatanga. and Hapu – tanga. | Containing the identification and use of local materials drawn from within the tribal/geographical boundary that also within distinct catchments. this includes the use of Rongoa for animal and human health.<br>indigenous plant species we used to treat the land, the water, and the people residing within those communities. |
| 3 | Soil heath | Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and by enhancing soil biological activity. | Mana Whakapapa and te Mana o Papatuanuku and Mana Tiaki. | Obligation to look after Papatūānuku.<br>Obligation to maintain and enhance the mauri of natural resources. |

| | | | | |
|---|---|---|---|---|
| 4 | Animal health | Ensure animal health and welfare. | Manaakitanga and Mana Tiaki<br>kaitiakitanga | The incorporation and the use of Rongoā Māori species within remodelled and diverse production systems reduces health risks from parasites and a reliance on chemical interventions. |
| 5 | Biodiversity | Maintain and enhance diversity of species, functional diversity and genetic resources and maintain biodiversity in the agroecosystem over time and space at field, farm and landscape scales. | Mana whakapapa | Genealogical links between all living things and how we can use that knowledge to guide associations of species for multi-level agro-forestry, companion planting in production systems, riparian plantings to protect waterways, and the right plant selection, placement and use within Mahinga Kia gardens.<br>Or symbiotic Multi-Trophic Agro-ecology. |
| 6 | Synergy | Enhance positive ecological interaction, synergy, integration, and complementarity amongst the elements of agroecosystems (plants, animals, trees, soil, water). | Mana whakapapa<br>The kete whakairo | Maintaining the Mana of individual kin species and recognising their role and function within symbiotic relationships. Genealogical links between all living things and how we can use that knowledge to guide associations of species to enhance the Mauri of the eco-system as a whole read. |
| 7 | Economic diversification | Diversify on-farm incomes by ensuring small-scale farmers have greater financial independence and value addition | Pāuaua and whakairo | Optimizing traditional knowledge systems and principles to create a Mātauranga Māori. De-risking for enhanced resilience – learnt from living functions and systems, to achieve |

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| | | opportunities while enabling them to respond to demand from consumers. | | predictability in the utilisation well provisioning resources and systems.<br><br>This enhanced level of crop and animal diversity reduces the risk of failure in challenging climates and the rapid onset of changes that are impacting remote rural Māori communities.<br><br>new premium value market opportunities can be developed with discerning high value consumers who understand and value the unique [earth care] cultural drivers of the model and the provenance story, captured within the brand.<br><br>Also, diversification of diets by using traditional foods. |
| 8 | Co-creation of knowledge | Enhance co-creation and horizontal sharing of knowledge including local and scientific innovation, especially through farmer-to-farmer exchange. | Wānanga<br><br>Ranginui, Papatūānuku and Mōhiotanga | The process of wananga enables discussions to take place and different actors to share their knowledge, experiences and point of view, thus building capability for all and leading to integrated well thought solutions.<br><br>TAM values the local, empirical, and indigenous knowledge. It enhances the distinction between the production of knowledge and its application.<br><br>Mātauranga Māori is based on multi-generational connection to those ecosystems. |

| 9 | Social values and diets | Build food systems based on the culture, identity, tradition, social and gender equity of local communities that provide healthy, diversified, seasonally and culturally appropriate diets. | Manaakitanga | Serving the needs of the community<br>Food sovereignty as a basis for rangatiratanga.<br>Provisioning for the whole community is a core component of the traditional heritage which sits at the centre of the model.<br>The production of traditional foods incorporated within current primary production provides opportunity for diversification of different macro nutrients, micronutrients and bio active compounds to the human diet. |
|---|---|---|---|---|
| 10 | Fairness | Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade, fair employment and fair treatment of intellectual property rights. | Pono, tika and Manaakitanga | Interwoven actions end the application of skills and resources that benefit the tribal entity as a whole and not the individual, recognising the kinship values and whakapapa connexion which binds us all in an ethical and moral support network.<br>optimising the use of local skills and labour drawn from within the local community.<br>Model places a strong emphasis on cultural and social values advancing equity and inclusion as well as cultural identity and dignity. it engages people more directly within food production systems that provision them in accordance with the traditional needs which impacts on local |

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|---|---|---|---|---|
| | | | | marae and kura as well as the broader community generally. |
| 11 | Connectivity | Ensure proximity and confidence between producers and consumers through promotion of fair and short distribution networks and by re-embedding food systems into local economies. | Whakapapa<br>Whānau<br>Hapū | Kinship relationships and mana-kai [provisioning gardens in the local community,]<br>Connectivity as whakapapa base which operates at a whanau as well as a hapu level.<br>The model operates without hierarchy. the value of the individual supports and advances the value of the whole. |
| 12 | Land and natural resource governance | Recognise and support the needs and interests of family farmers, smallholders and peasant food producers as sustainable managers and guardians of natural and genetic resources. | Mana Atua<br>Mana Rangatira.<br>Mana Tiaki | Protecting and enhancing the Manor and the Mauri of Papatūānuku.<br>Recognising the Rangatiratanga of the mountain which directs land use practise, and to exercise strict guardianship protocols which enhance SECE values and capitals.<br>This innovative participatory process which includes the voice of the land itself disrupts the institutional paradigm and the industrialization of primary production. |

| 13 | Participation | Encourage social organisation and greater participation in decision-making by food producers and consumers to support decentralized governance and local adaptive management of agricultural and food systems. | Whakawhanaungatanga.<br>Hapū.<br>Mana motuhake | Rangatiratanga led engagement to advance self - determination.<br>Enhancing mana through self-determination and control over one's own destiny, in service of the collective need and Papa.<br>This recognises the personhood status of all bull living creatures within the natural living world and gives them equality of voice.<br>In the TAM model science becomes the validator of RA in redirected research which underpins traditional, practical and local knowledge of producers. By enhancing their autonomy and adaptive capacity, agroecology empowers producers and communities as key agents of change.” |
|---|---|---|---|---|

Table 1: links between agro-ecology principles and Te Ao Māori principles

### Integrated Planning Processes

**Process steps**

Modern whole-farm plans follow several steps that could be enhanced by including Mātauranga Māori and tikanga to advance all natural resources beyond land and economic value, encompassing environmental, social and cultural factors in a more holistic model. The following steps for holistic farm planning are described by[131] in the context of integrating indigenous biodiversity into agroecosystems and have been modified here to demonstrate how they would also address the inclusion of Mātauranga Māori and tikanga[132].

Reflection on the history of the land and people and how we got to the current situation, and lessons learnt should be a priority – korero about the past, e.g., through settlement process. Or family history for pākehā.

Non-Māori scientists who have worked with Māori believe the following steps are critical to success. Whilst these are well considered, they do not necessary represent tikanga based processes – most especially in their order or sequencing.

**Step 1: Goal setting:**

The current farm planning process usually starts with goal setting. [Which is why it is inappropriate to use for indigenous land use or production purposes because Step one of the process needs to be values base.]  Identifying the underlying values, the goals and the aspirations hope the land itself and the obligation as well as the resources principles and practises which could be used to uphold or advance those value.

Here the objectives the landowners have for the farm, business and family are identified. This phase of on-farm planning can be expanded to include wider goals such as long-term goals for whānau, hapū and iwi spanning across all four value types (SECE outcomes). Goal setting and planning must begin with engagement with the whanau and landowners, to determine their vision, goals, needs and aspirations.  The planning must be fully inclusive and iterative.

This planning should be guided by wellbeing principles, not just economic, and should include non-conventional measures such as support for the marae, building capability (i.e., knowledge and skill acquisition for young people to bring them back to the land), leadership (i.e., kaumatua presence), access to culturally significant sites, use of Te Reo Māori and sharing whakapapa history. The wellbeing metrics can be drawn from the Ngā Tapa Whā framework[133].

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[131] Maseyk, F. J. F., Dominati, E. J., & Mackay, A. D. (2019). More than a 'nice to have': integrating indigenous biodiversity into agroecosystems in New Zealand. New Zealand Journal of Ecology, 43, 1-12.

[132] (Dominati & Watson, 2019)

[133] Durie, M. (2001). Mauri ora: The dynamics of Māori health. Oxford University Press.

Because farms are not isolated but are part of catchments, other targets such as biodiversity or water quality targets, which operate at district, regional or national scales, should be considered. Thus, the goal-setting exercise should translate these broader outcomes to metrics and farm-scale targets that can be monitored and reported on. This can be seen as the relationship between the farm system and its physical environment.

**Step 2: Stocktake of farm resources:**

The next step in the farm planning process is a stocktake of resources, including an inventory of existing capital both in quality and quantity. In an integrated farm plan, this should be expanded to include descriptions of all farm assets including natural (e.g. soils, waterways, wetlands, vegetation, significant species), social (e.g. staff safety and well-being), cultural (e.g. strength of cultural identity, the use of te Reo, the condition of the marae complex, access to sites of significance, use of cultural practices etc), and manufactured capital (e.g. farm infrastructure, roads). The stocktake of farm resources should also include human resources and reflect on whakapapa - the connectivity between all 'resources'. Different types of metrics based on Mātauranga Māori and te Ao Māori should be used, in combination with more classical western metrics, to determine the health and wellbeing of the different resources of the farm. For example, a way to measure the Mauri of the water[134].

**Step 3: Definition of environmental, cultural and social boundaries:**

This is also the opportunity for Māori landowners to translate cultural values and tikanga into hard boundaries within which any economic activity can operate, in order to support their community using well-being measures mentioned above. For example, rāhui, could be used which involves the temporary closure/non-use of specific areas to allow them to recover and regenerate. The protection of wāhi tapu, areas subject to long-term ritual restrictions on access or use, is another example.

Having carried out a stocktake of resources, landowners should next define cultural, environmental, and social boundaries within which economic activity can occur. This step is the opportunity for landowners to go beyond the minimum required to be compliant with regulations and establish farm management practices that follow their own personal goals and values (step 1) and be proactive, as opposed to reactive.

Some boundaries will be defined at the farm scale, such as maintaining soil quality or the specific use of some part of the farm at certain times of the year for cultural reasons. This would align with and use the Maramataka. Other boundaries will be defined at the catchment scale and relate to desired community outcomes (e.g., thresholds on nutrient losses and sediment, hapu/iwi strategy for the rohe [territory]) and consumer outcomes

[134] Morgan, K. (2003). The sustainable evaluation of the provision of urban infrastructure alternatives using the tangata whenua Mauri Model within the Smart Growth Sub-Region. Technical report.

(e.g., practice and produce quality), while further boundaries may be defined at the national scale (e.g., greenhouse gas emissions to air). [135]

**Step 4: Assessment of the current performance in relation to goals:**

The next step is a critical assessment. It typically involves landowners assessing the inventory of resources and their current state in the context of personal values, stated goals and targets. This helps them to determine the extent to which those goals and targets are being met. This step identifies areas of the farm at risk and areas on which to focus, opportunities for the modification or introduction of new farming practices, or the consideration of land use changes for parts of the farm, all within the boundaries set at the previous step. Tikanga and Kawa will be observed in that process.

Under a bi-cultural model, the processes within this step would remain the same, but as the farm boundaries have broadened to encompass cultural, environmental and social values, so to have the criteria for performance evaluation. The metrics defined in step 1, across four value types, should be used here to assess performance in a bi-cultural way.

**Step 5: Assess options for land use and management**:

This is where options for land use change or management change are shortlisted and assessed against each other's. Under holistic farm planning, the criteria for performance evaluation have broadened to encompass social, cultural and environmental values and need to be measured against the goas and vision, as well as fit within the set boundaries. This is the opportunity to reflect on the connectivity between all resources and the impact of increasing the resilience of one part of the farm on the entire system. If new land uses are considered, experts need to be involved to develop the value proposition and business plan, and model potential impacts on all value types, so different options and scenarios can be weighed across the whole framework.

When shortlisting their options, farmers should already have a clear view of the opportunities and constraints their supply chains offer.

**Step 6: Development of a work plan:**

The work plan identifies and schedules management actions on specific areas of the farm required to sustain or enhance resources to achieve the stated farm aspirations. For each LMU, identify actions that will address multiple goals and risks simultaneously, within the boundaries identified. Different management practices can be tested on small scale if there is uncertainty on impacts or efficiency.

In practice on Māori land, the range of management actions needed should be driven by cultural values such as kaitiakitanga and manaakitanga.

Expert opinion is needed here. To bring an integrated farm plan to life, a broader range of experts should be consulted, including pedologist, ecologists or kaumatua and kuia in the

[135] (Dominati et al., 2023)

case of Māori landowners. Ideally a work plan would span several years and include budgets and timeframes and be linked to the farm's business plan.

If new land uses are considered, experts need to be involved to develop the value proposition and business plan, and model potential impacts on SECE values, so different options can be weighed across the whole framework.

Management actions and development practices need to be guided by relational values that determine ethical behaviour toward people and non-human kin[136]. The focus needs to be actions that build mauri, or the life-sustaining capacity, of both human and non-human communities. In practical terms it means that the land stays in whānau or hapū control (tino rangatiratanga), ensuring balance between production and environmental imperatives (Kaitiakitanga), and providing employment and community contributions (manaakitanga)[137]. This will mean that a number of new farming practices or modifications will be brought in but will over time become integrated into and improve the existing farm system to encompass the SECE targets. Critically, the work plan will be te Taiao based, and it will support and enhance Papatūānuku and all her offspring. This sets a standard and a process – making the planning and execution of the work to be undertaken Atua centric.

**Step 7: Monitoring and reporting:**

The final step is the monitoring and reporting to measure and track current outputs, outcomes and performance towards identified goals, using a range of carefully selected indicators, both at the farm scale and beyond.

For Māori land, the monitoring and reporting should target the uptake of practices that give effect to relational values. The performance of all parts of the farm should be monitored, including all land covers and ecosystem types (e.g., not only productive farmland but also native remnants, wetlands, waterways…) for the range of ecosystem services they provide across cultural, environmental, social, and economic targets. This reporting feeds back into future goal setting. It is important to ensure that the outcomes of practices are also monitored to determine the extent to which mauri is being maintained or enhanced.

However, the extent to which practices are measured by indicators will be largely dependent upon the ability of an enterprise, or institution, to actually undertake monitoring[138]. This highlights the flaw in the current model. Performance must include icon species indicators, many of which are used by Māori, and they will be assessed by a combination of field empirical measurement and kaumatua/kuia expert appraisal.[139]

[136] Reid, J., Barr, T., & Lambert, S. (2013). Indigenous sustainability indicators for Māori farming and fishing enterprises-A theoretical framework

[137] ibid

[138] ibid

[139] (Dominati et al., 2023)

Examples of management practices to follow for different land uses:

Below, in table 2, we give a few examples of management practices to build a te Ao Māori based grazing system model. This only assesses farm practice using conventional tauiwi farm practices. It is missing many essential elements found within a te Ao Māori model.

Table 2: Land management practices examples

| Conventional Farm practice | Te Ao Māori / Maramataka |
|---|---|
| Native vegetation | |
| locate areas which need to change land use- based on soil map, LUC and erosion | Identify the needs and the functions of the landscape using a mountain to the sea approach incorporating traditional knowledge on land use capability, microclimate factors, using the Maramataka, and recognising that this is and an indigenous knowledge and function driven process.<br>Identify areas to transition to natives, based on soil map, LUC and erosion, and historical native land cover and its use (including wāhi tapu sites). Create connectivity between bush blocks for native biodiversity. |
| locate areas for wetland restoration based on soil and LUC maps and historic land covers | This uses the same indigenous knowledge functions and practises detail above in order to locate areas for wetland restoration based on historical native land cover and use (including wāhi tapu sites). |
| planting natives: species selection, timing of planting, density… based on local ecology | This process produces a cloak to reclothe Papatuanuku looking at species selection, density etc based on Mātauranga,<br>timing of planting based on Maramataka,<br>planting process based on tikanga and done by tangata whenua. |

| Pasture | |
|---|---|
| Sow, Drill or over sow in autumn or spring based on temperature/moisture | This process restored the Mauri of the oneone and can use technology now that can direct drill or over sow seed - timed with the Maramataka and using tikanga principles. |
| Species selection based on performance goals and persistence. Pasture diversity prioritised based on soil conditions to improve and pests and diseases management | Whakapapa drives the species selection based on Mātauranga for soil improvement and using natives for animal health below and above ground. |
| Close for silage/hay based on feed supply | Base interventions on maramataka and use tikanga. |
| Close for deferred grazing (and open for grazing) based on heading date | Timing based on Maramataka |
| Summer crop planted in spring based on weather and surplus feed supply | Timing based on maramataka and using tikanga |
| Winter crop planted in autumn based on soil moisture recovery | Timing based on maramataka and using tikanga |
| Apply insecticide based on pest population assessment and weather | Synergies and symbiotic relationships should be considered first before applying interventions |
| Apply herbicide based on weed population assessment or prior to pasture renewal and weather. | Natural solutions should be found and used. |
| fertilise based on soil tests and pasture quality | Timing based on maramataka using tikanga.<br><br>Type of fertilisers determined by Mātauranga and using the principles of local provenance and reusing wastes. |
| Animals | |

| Timing of conception/mating and thus lambing/weaning dates based on requirements from supply chain | Conception dates based on natural cycles (cyclicity, onset and/or synchronisation of oestrus (heat), ovulation rate and conception rates) and based on maramataka. |
| --- | --- |
| Animal growth, health and welfare driven by nutrition, and welfare domains | Include more diversity in nutrition including the use of natives for animal remedies,<br>Health interventions timing based on maramataka, shearing, docking, vaccinating…<br>Use tikanga if appropriate. |
| Slaughter dates based on value chain needs | The Mana of the animal must be maintained in this process and the use of Maramataka for timing can be vital. |

### Conclusion

The impact industrial agriculture has had on tangata whenua and the whenua, the awa and the moana across Aotearoa is well researched and documented. This requires a change to a more symbiotic production model that protects then enhances natural capital – which will in turn increase wellbeing within the sector – and society as a whole.

A te Ao Māori Primary Production system [TAMPPS] is closely aligned [generally] to Agroecology. The natural symbiosis evident within te Ao Māori principles [whakapapa and whanaungatanga] advance the western concept. It evolves into **Symbiotic Multi-Trophic Agro-ecology** (SMTA) which is an agricultural approach that aims to enhance the sustainability and ecological balance of farming systems by promoting symbiotic relationships between different trophic levels within the ecosystem, within a cultural context. It integrates multiple plants and species,[140] such as crops, livestock, and beneficial organisms,[141] in a way that they interact and support each other's growth and productivity [tau utuutu]. In te Ao Māori this reciprocity underpins manaakitanga and whanaungatanga.

In SMTA, the agricultural system is designed to mimic natural ecosystems, where different species coexist and mutually benefit from each other. This approach recognises that

[140] https://www.sciencedirect.com/science/article/pii/S2666154321000922

[141] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2610106/

biodiversity and ecological interactions play a crucial role in maintaining the health and productivity of agricultural systems. This enhances Mauri.

By harnessing these interactions, SMTA seeks to minimise the use of external inputs such as synthetic fertilizers, pesticides, and antibiotics.[142] This is again a te Ao Māori concept – it recognises and maintains the mana of local / internal inputs [most importantly organics] which all form a part of the web of kinship within a rohe.

Key elements of **Symbiotic Multi-Trophic Agro-ecology** include:

**Symbiosis:** the symbiotic elements of SMTA are provided within the te Ao Māori context and relate to Whanaungatanga [extended family connections] and Tau-utuutu [reciprocity].

**Diversification:** SMTA emphasises the use of diverse plant and animal species in agricultural systems. This diversification promotes ecological resilience, reduces pest and disease pressure, and enhances overall productivity. Te Mana o te Whenua and Manaakitanga.

**Trophic Interactions**[143]: SMTA focuses on promoting symbiotic relationships between different trophic levels. For example, integrating nitrogen-fixing plants with crops helps enhance soil fertility, while providing habitats for beneficial insects and microorganisms that control pests.

**Nutrient cycling**[144]: SMTA aims to maximise nutrient cycling within the system. By using nutrient-rich organic matter, such as animal manure or compost, the system minimises the need for synthetic fertilisers and reduces nutrient runoff and pollution. Whanaungatanga and Tau-utuutu

**Biological pest control:** SMTA encourages the use of natural enemies, such as predatory insects and birds, to control pests[145] instead of relying solely on chemical pesticides. This approach reduces the negative environmental impacts of pesticides while maintaining pest control.

**Livestock integration:** SMTA incorporates livestock into the system to enhance nutrient cycling and diversify farm outputs[146]. For example, integrating chickens with crop production can provide pest control services, while their manure enriches the soil.

**Goal;** The goal of Symbiotic Multi-Trophic Agro-ecology is to create resilient and sustainable farming systems that mimic natural ecosystems to meet the needs of food production whilst recognising that all flora and fauna within natural ecosystems are connected via **Whakapapa kinship relationship**: By promoting biodiversity, ecological interactions, and nutrient cycling, SMTA offers a more sustainable alternative to conventional agricultural

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[142] ibid

[143] ibid

[144] Brussaard & Ferrera-Cerrato 1997; Schlesinger 1997; Lavelle & Spain 2001; Coleman et al. 2004).

[145] ibid

[146] https://attra.ncat.org/publication/integrating-livestock-and-crops-improving-soil-solving-problems-increasing-income/

practices, reducing the reliance on external inputs and minimizing negative environmental impacts.

This more refined version of agroecology makes it an ideal candidate as an entry point for non-indigenous primary producers to access a TAMPPS model. This is explored in more detail later within this Think Piece.

The information presented in this report provides an important analysis on industrial agriculture and its impacts not only on Māori but on the overall wellbeing of natural resources within New Zealand. This section of the Paper addressed the relevance of modern agro-ecosystem solutions, from a western science point of view, for modern Te Ao Māori-based farm systems. It is difficult to generalise principles and practices because every farm has a different landscape and decisions should be based on the strengths and weaknesses of that whenua, it's history and local knowledge.

In practice, the planning process would look very different depending on the aspirations of the landowners and managers, and should be an on-going, live, recurring process.

This Section of the Paper was made possible via contributions from many farmers and growers, both Māori and Pākehā, who helped in defining the principles and the critical steps of this planning process. Their collaborative input is acknowledged herein.

*"Teamwork is the ability to work together toward a common vision. The ability to direct individual accomplishments toward organisational objectives. It is the fuel that allows common people to attain uncommon results."* - **Andrew Carnegie**

## Pre-Colonial Horticulture

The full extent of Māori horticultural capability is a little understood within mainstream New Zealand society and its research institutes. Since their first arrived in Aotearoa, New Zealand, more than 800 years ago, Māori brought with them extensive knowledge on agriculture and horticulture derived from voyaging and cohabitation with other cultures from Melanesia in the West and as far as South America in the East.

Kainga[147]

Their gardening and horticulture skills on arrival in a new subtropical or temperate climate were systematically modified and

[147] https://commons.wikimedia.org/wiki/File:View_of_Taup%C5%8D_Kainga_from_the_Taua_Tapu_(Pukerua)_Track,_Plimmerton_(17210987220).jpg

advanced to a point where they were far superior to any of the food production systems introduced into New Zealand via colonisation.

This innovation capability enabled Māori tribes particularly in the North Island to adapt new technologies, plant species and animal production into a primary production hybrid which rapidly outpaced European agriculture and horticulture within 15 years of first colonial contact. The "Golden Years" of Māori development.

This was witnessed in particular in the Waikato and Bay of Plenty regions of the North Island.

The horticulture and cropping skills they had developed with plant species such as Kūmara extended far beyond the development of specific soil mixes and plant varieties through to harvesting and storing techniques, within advanced temperature controlled pataka / store houses which are only now just beginning to be understood by Europeans.

Many of the cultivars grown were for specific purposes and cultural events. Some of the kūmara species were grown to produce large and sweet tubers which were used specifically to feed Rangatira and invited guests. These species did not store well and were consumed within relatively short periods of time, post-harvest. Others were selectively cultivated for their long keeping capabilities and they were carefully stored in raised pataka which were located in specific areas where air circulation and microclimates enhanced their storage capability.

Western science is only now beginning to understand the complexity and the advanced science capability Māori developed since their arrival to this country. This knowledge was seldom if ever written down, even after colonisation began. This traditional knowledge was maintained in oral histories, in waiata, and in specific instruction provided to those who were engaged in soil preparation and advanced horticulture practise within the māra kai mother that surrounded the marae and villages across the whole of New Zealand from the far North to the deep South.

When the Māori people arrived in Aotearoa/New Zealand in the late 13th century, they encountered a land that was different from the Polynesia they had departed from.

The pre-European diet of Māori in Aotearoa consisted primarily of hunted / gathered foods such as seafood, birds, and aruhe (fern root). Horticulture crops grown included kūmara taro, hue (bottle gourd) and uwhi (yam) came with them across multiple migrations stretching from Aotearoa to South America [and all the islands in between]. Their Tipuna carried the knowledge on these crops with them, pre-migration and post migration. That knowledge stretches back to the early 1000 AAD period.

Māori were adept and skilled in horticulture, organic fertiliser use, storage of foods and crop selection and plant species genetics. After migration, they quickly adapted their cultivation and food storage methods to the colder temperatures, soil conditions and developed the Maramataka specifically for their new home.

This adaption capability served them well when new plant and animal species were introduced to NZ by colonial migrants from the late 1700's onwards.

The cooler climate posed challenges for the survival of some of these food crops and specific planting methods were necessary especially for kūmara.

## Māori Soil Science

Māori have been soil scientists for generations[148] and they had multiple names for different soil types or oneone. For example, Onepunga is a light soil, onerere is a free-draining soil and oneparaumu is a dark friable soil. Sometimes, the type of soil became a place name.

Onehunga is an alluvial soil, or a beach composed of mixed sand and mud. It makes sense that the Auckland suburb bearing this name borders the Manukau Harbour.[150]

Whatārangi (storehouse on two legs) surrounded by a kūmara garden.[149]

Over time, they gained knowledge about the local climate and soils in Aotearoa. They discovered that kūmara thrived in light, sandy soil. If the existing soil was heavy and less favourable, Māori took measures to modify it. They extracted gravel and sand from designated areas called borrow pits and incorporated them into the soil. This soil modification process offered several advantages:

1. The stones in the soil absorbed and retained heat, thus extending the growing season.
2. Improved drainage facilitated better water flow.
3. Gravel collected moisture from the air during the night.
4. The modified soil encouraged the desired size and shape of kūmara formation.
5. The presence of gravel protected the leaves of the plants from excessive moisture in the soil.[151]

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[148] https://thespinoff.co.nz/kai/20-10-2020/a-world-beyond-our-feet-rethinking-our-relationship-with-where-we-grow-our-kai

[149] By Michal Klajban - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=49390762

[150] https://www.sciencelearn.org.nz/resources/888-Māori-soil-science

[151] https://www.sciencelearn.org.nz/resources/888-Māori-soil-science

Additionally, the Māori added charcoal to the soil, serving two purposes: retaining moisture and aiding in soil warming.

The Waikato region encompassed approximately 2,000 hectares of altered soil. Kūmara gardens, used for cultivating sweet potatoes, were situated on lands and terraces adjacent to the Waikato and Waipā Rivers.[152]

An exemplar of these formerly widespread kūmara gardens is Te Parapara Garden, located within the Hamilton Gardens. The garden derives its name from the historical Māori settlement that once occupied the site. This particular area was previously inhabited by Chief Haanui of Ngāti Wairere and held significance in sacred practices related to food harvesting.

Significant excavations have been conducted at various garden sites, including nine sites in Palliser Bay and multiple stone field garden systems around volcanic cones in Auckland. These excavations, spanning over a period of 15 years, aimed to document and study the remnants of these gardens before their destruction due to site modifications. Additionally, salvage archaeology has played a role in uncovering information about gardening practices in the coastal and inland regions of Bay of Plenty, particularly in areas where visible evidence was lacking on the surface.

One important discovery has been the realisation that the tephra layers, composed of volcanic ash, in these areas served as highly fertile growing media for plants. This understanding reveals the productivity of the soils and their importance in Māori gardening methods.

Furthermore, researchers have explored the relationship between borrow pits (areas where materials were extracted) and modified soils in regions such as the Waikato Basin, Aotea, and Wanganui. Māori gardeners employed a strategy of enhancing surface soils by incorporating coarser materials like sand and gravel obtained from beneath the surface. Investigations have aimed to understand the methods and motivations behind this soil modification approach.[153]

Experiments carried out by archaeologists and others[154], tested the yields of kūmara, replicating traditional Māori practices examining the effect of moisture and heat retention in an attempt to explain archaeological stone features. The results generated showed that when sand and gravel was added to soil as per the traditional methods, soil temperature reached a peak of 4°C higher than unmodified soil or soil with charcoal. Other investigations conducted into the use of sand showed that when following the traditional methods, kūmara root growth was increased.[155]

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[152] ibid

[153] Māori gardening An archaeological perspective Louise Furey New Zealand Department of Conservation 2006

[154] (Horn 1993; Worrall 1993).

[155] Horn 1993

## Polynesian Food Crops – Importing and Adapting

At the time of European arrival in New Zealand, only six imported cultigens were cultivated by the Māori people. These included kūmara (sweet potato), taro, yam (uwhi, Dioscorea spp.), gourd, and in some regions, ti pore (Cordyline fruticosa). Additionally, aute (paper mulberry, Broussonetia papyrifera) was grown specifically for its use in textile production.

Taputini - A pre-European cultivar of kūmara[156]

The successful introduction of Polynesian root crops in New Zealand required not only expertise in plant cultivation but also modifications to the garden environment to enhance the conditions for plant growth and maturation. These modifications encompassed practices such as adding gravel and sand to the soil, implementing mulching techniques, constructing fences and windbreaks, and potentially creating stone rows. These measures aimed to provide shelter for the growing plants, create warmer ground temperatures through the use of heaped soil and stones, and establish mechanisms for the storage of kūmara tubers after harvesting.

Over time, there might have been a selection process favouring varieties that were more tolerant of cooler growing conditions or had faster maturation rates. Kūmara was the most widely cultivated Māori cultigen in New Zealand, although it held minor importance in most tropical Polynesian regions. However, on Rapa Nui (Easter Island), kūmara attained a similar level of significance as a principal food crop.

Multiple methods were employed for planting kūmara, as observed by Captain James Cook. These methods included planting in rows, on mounds, and in a quincunx (offset spacing) pattern. European observers frequently noted the meticulous and weed-free state of Māori gardens, particularly before the introduction of European weeds that now aggressively colonise open areas.

Maintaining the gardens required significant effort during the growing season, involving the removal of caterpillars that ate the leaves, keeping the area around the plants well-tilled and heaped, and trimming dead leaves. This high level of maintenance was crucial for ensuring the success of the crops.[157]

The mature main crop was carefully dug in autumn, sorted to remove damaged tubers, and stored in kete in pataka and storage pits.

[156] https://en.wikipedia.org/wiki/Sweet_potato_cultivation_in_Polynesia

[157] Best 1976

William Colenso[158] named 32 varieties of kūmara from Northland and another 16 from the Tairawhiti rohe. They ranged from white-skinned with white flesh through to purple-skinned with purple flesh. Elsdon Best recorded over 100 names from different districts[159]. Different varieties were known for specific characteristics, such as sweetness, flavour, large tuber production, or high crop yield.

By the early 1800s Māori continued to grow kūmara after first contact with Pākehā but began to replace the traditional kūmara with the European introduced varieties, which produced larger tubers and were considered sweeter.[160] Only three of these varieties now survive, Hutihuti, Rekamaroa and Taputini.

Most of the original varieties were collected by a scientist from Japan who worked with local Māori to obtain the plant varieties and knowledge on their cultivation.

Sweet potato (*Ipomoea batatas* L.) is one of the major root vegetables in Japan. It is eaten as a baked or steamed product and has also been used as a raw material for liquor and starch production. Sweet potato is produced mainly in temperate regions, such as occur in the central or southern parts of Japan. Currently, however, the production area is distributed as far as Hokkaido in the subarctic region in northern Japan. There have been few reports on the taste and quality of sweet potatoes that are grown in the subarctic regions.

Consequently, some characteristics related to food processing properties have been compared between crops grown in the Kanto or Kyushu region, in central or southern Japan, with that from Hokkaido. Sweet potatoes grown in Hokkaido had the following features compared with those grown in Kanto or Kyushu: 1) significantly lower dry matter ratio (2.0 to 7.0%) and starch content (2.1 to 5.2%) in the tuberous roots; 2) lower firmness (6.5 to 20.4 kgf $cm^{-2}$) and higher Brix value (2.7 to 7.0 °Brix) in steamed roots; and 3) were moister and sweeter in a triangle sensory preference test.

Furthermore, the pasting temperature of starch extracted from Hokkaido crops was significantly lower (2.5 to 8.7°C) than those from Kanto or Kyushu. Starch gel made from Hokkaido crops, with the lower pasting temperature, showed a significantly lower water separation ratio (8.3 to 9.4% after four weeks storage at 4°C) and fewer changes in firmness compared to those from Kanto and Kyushu.

This data and information mirrors the expertise Māori had with regards multiple kūmara varieties which were grown at different geographical locations across New Zealand and within different microclimates. The size of the gardens varied according to district, with the climate in the far north being more closely aligned to the South American and Pacific Island climates. Therefore, the gardens in that area tended to be larger than elsewhere. This remains true today.

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[158] https://teara.govt.nz/en/biographies/1c23/colenso-william

[159] Leach 1984: 103

[160] Coleman 1972: 5; Best 1976: 114

## Crop Rotation

Early European accounts on the size of gardens showed that they ranged from 1–2 acres to 8–10 acres in Anaura Bay, as per Joseph Banks accounts to 40–50 acres in the Bay of Islands[161].

Māori soil science was extensive, and a range of techniques ensured that their crop production systems were highly successful.

Fallowing the round after extended periods of cropping was well used and Māori recognised that variables such as natural fertility of the soil, the type of soil, climatic conditions and previous vegetation were all important factors.

Some soils could be cropped for 3 years then fallowed[162], if bracken fern was growing, the ground was fallowed for 7–14 years but if scrub or light bush was present, the rest period depended on how long it took for the vegetation to grow.

For example, the Māori Land Court has records of Waihou area in Hauraki rohe showing that gardens could be cropped for 2– 3 years, or possibly up to 6 years, before the soil was rested[163]. Whereas in Tamaki, 10 and 20 years of rest was required after 3 years of cropping[164].

When preparing gardens, Māori burned the vegetation, and spread the ash over the ground. Stones and debris and were cleared to the boundaries of the garden.[165]

Before the kūmara were planted, the ground was loosened at regular intervals then formed up into mounds / puke, not extensively turned over as per pākehā methods, as noted by Best. If bracken fern was in the gardening area, the ground was fully turned, removing the roots. Yams were planted in a similar manner.

Taro that were grown on the East Coast were planted in a different fashion. Holes were dug approximately 60 cm wide and 20 cm deep, roughly 45–90 cm apart. 3 to 4 taro tubers were planted into holes were filled with gravel which was pulled around the tubers and firmed. Sand was then laid on the ground between the tubers. Manuka fences were used as wind breaks and protection from animals as well as snare traps to combat rat and weka damage. The raised bed technique was for kūmara growing on damp soil.[166]

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[161] Salmond 1991: 164, 230

[162] Best 1976: 143

[163] Phillips 2000: 58

[164] Sullivan 1985: 485, Jones (1989: 62

[165] Best 1976

[166] Māori gardening An archaeological perspective Louise Furey New Zealand Department of Conservation 2006

## Soil Conditioning and Innovation

The vertical lines in the whenua indicate the location of borrow Pits on the Wairarapa coast[169]

As previously mentioned, soils were improved by adding a layer of sand from riverbeds or river terraces depending on terrain. Clay soil types had sand added to keep it porous and able to take up water[167] and adding gravel was an annual activity[168].

Best provides an example in Ngati Kahungunu[170] where heavy loam soils were improved by gravel, but due to the amount of effort involved, lighter, rich soils were preferable for kūmara.

Small amounts of gravel could be used to put under the leaves for protection against mud and damp, grass was as less preferred alternative. Gravel was also added to the soil in the mound before the kūmara was planted to warm the soil and allow air.

Techniques using stone to build rows, heaps, alignments, and mounds were brought to Aotearoa from Eastern and Central Polynesia as can be seen in archaeological literature from that area. The use of stone as boundaries between garden plots have been used by Polynesian horticulturalists for generations[171].

Evidence of extensive stone rows can be found in Palliser Bay and cover over 9 hectares of whenua.

Water diversion and reticulation was achieved by using ditches and channels dug in shallow parallel lines on slopes and/or as interconnecting ditches or channels in swampy areas. Clay whenua on river flats required drainage and surface channels were dug before the wet season.

Māori recognised that continued soaking of the soil in winter meant that spring growth would be restricted, and the nutrients would wash out, souring the soil. Previously dug areas had their drains cleared out before any planting commenced.

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[167] Best 1976: 132–133

[168] Colenso (1880: 138)

[169] Google Maps

[170] Best (1976: 163–172)

[171] Leach 1976: 134–144

Borrow pits can be found all over Aotearoa as evidence of Māori soil improvement. This is where coarse sand or gravel has been removed for use in gardens close by[172] and stone terraces were used to combat soil loss on steep slopes and where soils were thin.

These techniques used by Māori were so successful that they were able to grow kūmara in the cold conditions in Otago. Scientists had considered this area was too cold to cultivate and store live kūmara in bulk.[173] However, Māori know this to be false through existing Mātauranga Māori from Te Waipounamu.

A closeup from a section of the main pit. The joining, closed pipi shells in the centre (right of the 550mm tape increment) were radiocarbon dated to the period 1430-1460 CE.[174]

In a classic example of western science "proving" Mātauranga Māori, scientists discovered pit structures in *rua kūmara / kūmara roots* at Pūrākaunui, coastal Otago in 2021.

Using radiocarbon dating, a timeline of 1430 – 1460 was given at a 95% probability, making it some of the most accurate information generated using this technique.[175]

For the first time that many Māori could remember, Mātauranga Māori "mythic genres", lineal histories and whakapapa were recognised by scientists as having equal validity as historical science narratives and the that etiological and cosmological themes woven into Mātauranga Māori provided valid information in their investigations.[176] The scientists also recognised the contrasting nature of "secular separation and prioritization of chronologically ordered "factual" events in 'western' histories"[177]

Māori used regular fires and heated rocks to maintain the soil temperature above 10°C, making it viable for root stock storage. Large rocks and evidence of fires at the base of several archaeological *rua kūmara* in Te Waipounamu have been found and cited as possibly being "evidence of such active management"[178] and Matauranga Māori involving the two ancient *kūmara atua* at Waikouaiti linked to Te Ika-a-Māui ancestors provided evidence to

[172] https://www.stuff.co.nz/waikato-times/7992092/Pits-reveal-glimpses-of-past

[173] Barber IG, Higham TFG (2021) Archaeological science meets Māori knowledge to model pre-Columbian sweet potato (Ipomoea batatas) dispersal to Polynesia's southernmost habitable margins. PLoS ONE 16(4): e0247643. https://doi.org/10.1371/journal.pone.0247643.

[174] https://www.otago.ac.nz/news/news/otago827001.html

[175] ibid

[176] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247643#

[177] Stewart S. Historicity and anthropology. Annual Rev Anthropol. 2016;45: 79–94.

[178] https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0247643#pone.0247643.ref017

support the long-standing history and successful transmission of knowledge and kūmara to Murihiku / Southland.[179]

It is unfortunate to see the impact colonisation has had on the retention and the use of traditional horticultural knowledge over the last 180 years. Ironically some of the most advanced traditional knowledge on the cultivation of kūmara is now held by Japanese scientists who visited New Zealand and collaborated with Māori to obtain that knowledge.

If the traditional knowledge Māori had on agriculture and horticulture had been acknowledged and expanded instead of being extinguished, primary production in New Zealand would be far different from what it is today.

The Hua Parakore[180], living indigenous food sovereignty movement in Aotearoa is a prime example of how traditional knowledge is being reinvigorated, and how traditional indigenous principles and practises are being applied within horticulture today here in New Zealand. Hua Parakore is a kaupapa Māori system for Kai Atua - Pure Foods. It can also be activated by Māori for Māori as a food sovereignty and food security system. It supports local māra kai initiatives and agriculture and horticulture that is free from all pesticides, fertilisers and GMO. It is the world's first Indigenous verification system for Kai Atua.

So too are initiatives such as the Centre of Excellence – Designing Future Productive Landscapes at Lincoln University.[181] As has been mentioned elsewhere in this paper, the research has a theme title, Toitū te whenua, which is a call to action to hold fast to the land *and* sustain it. Toitū te whenua, toitū te taiao, toitū te tangata, toitū te mauri ora – emphasises the interdependence of land, environment, people and all living things.

Initiatives such as these recalibrate thinking, principles and practises within horticulture recognising the strength and the value of indigenous knowledge and cultural identity to whenua, derived from 35 generations of intergenerational connection and identity to place.

## Pacific Trading

The Pacific-wide Māori trading network was a complex and extensive network of trade routes and interactions that existed among the indigenous peoples of the Pacific Ocean, including the Māori of New Zealand. This network was established before the arrival of European explorers and was based on long-standing cultural and economic ties.

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[179] Tau TM, Anderson A, editors. Ngāi Tahu: A Migration History: The Carrington Text. Wellington: Bridget Williams Books; 2008.

[180] https://www.tewakakaiora.co.nz/join-hua-parakore/

[181] https://research.lincoln.ac.nz/our-research/faculties-research-centres/centre-of-excellence-future-productive-landscapes

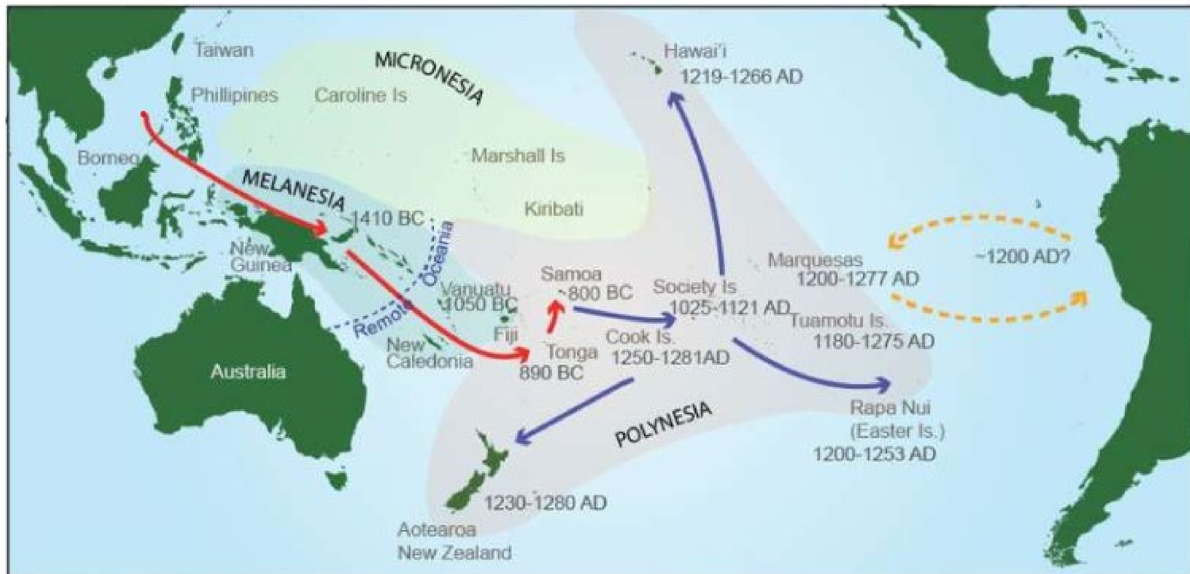


Figure 16: Pacific migrations: red arrows show expansion from island southeast Asia, blue arrows show Polynesian expansion, yellow arrows show proposed contact with the Americas.[182]

One of the most notable examples of this trading network is the exchange of obsidian. This extremely valuable volcanic glass has been found on islands throughout the South Pacific and it was valued as a cutting tool, as well as used in weaponry.

Using a geochemical "fingerprint," scientists have traced the ancient and complex trade routes that were based in the Polynesian islands and extended for thousands of miles outward—all long before any Europeans made contact. European traders are often thought to have led the spread of commerce across the globe, enabled by early Spanish and British explorers—but the actual story may be a bit more complex.

Authors of this most recent paper, published in *PNAS*, utilised the Tangatatau rock shelter[183] on Mangaia Island, a site in the South Cook Islands which has been called one of the "most comprehensive" archaeological sites in Polynesia. From Tangatatau they "charted the temporal duration and geographic spread" of stone adzes, tools used for woodworking. Using mass spectrometry, a technique which sorts ions based on their mass, they were able to determine each and every element within the adzes. From there, it was simply a matter of finding a corresponding rock quarry.

While most of the adzes came from the Cook Islands, a third were imported. Some materials were taken from the nearby Austral Islands, 400 miles away. But going even further,

[182] Anna Gosling / Wilmshurst et al. (2011)

[183] Tangatatau Rockshelter: The Evolution of an Eastern Polynesian Socio-Ecosystem. Edited by Patrick Vinton Kirch. 2017. UCLA Cotsen Institute of Archaeology Press, Los Angeles. 326 pp.

materials were used from Samoa, a little over a thousand miles away, and even the Marquesas Islands, 1,500 miles away from Tangatatau.

This trading, the authors of the paper[184] say, speaks to "interconnectedness and complexity of social relations fostered" in Polynesian society. It's estimated that the Cook Islands, then known as Rarotonga, was first colonised by natives at some point between 900 and 1200 AD, which considering how the Tangatatau adzes date back the 1300s, means that these complex trading routes could have been up and running within a hundred years of establishing life on the islands.

Greenstone, or pounamu, which was highly valued by the Māori and other Pacific peoples for its hardness and beauty, was also traded across this network. Greenstone was traded from one island to another and was used to create weapons, tools, and ornaments. In fact, greenstone was so valuable that it was often used as a form of currency in transactions within the Pacific-wide Māori trading network.

## Follow the Kūmara

The most widely known trade and the most well documented is the South American sweet potato or kūmara. Origin of this vegetable has been traced back 2 the northern regions of South America where the vegetable and knowledge on its growing practises was transferred by Modi who had originally cohabitated on Easter Island and who had travelled to the northern regions of South America on the Humboldt current. From there the kūmara was transported across to the society islands and later down to the Cook Islands and then further down to New Zealand.

A new study published in *Nature* reports genetic evidence of Native American ancestry in several Polynesian populations. The work, by Alexander Ioannidis and colleagues, is based on a genetic analysis of 807 individuals from 17 island populations and 15 indigenous communities from South and Central America.

Other researchers have previously found evidence of indigenous American DNA in the genomes of the modern inhabitants of Rapa Nui. (Rapa Nui, also known as Easter Island, is the part of Polynesia closest to South America.)

More novel was the fact that this earlier signal was also found in modern DNA samples collected in the 1980s from the Marquesas and the Tuamotu archipelagos. The researchers argue this likely traces to a single "contact event" around 1200 AD, and possibly as early as 1082 AD.

Both suggested dates for this first event are earlier than those generally accepted for the settlement of Rapa Nui (1200-1250 AD). The earlier date predates any archaeological

[184] https://www.popularmechanics.com/technology/a21796/ancient-polynesian-trade-routes-extended-for-thousands-of-miles/

evidence for human settlement of the Marquesas or any of the other islands on which it was identified.

Recent DNA has shown trading based out of Polynesia extended as far as South America and the Caribbean, but there have been questions to the exact timing.

The 1200 AD date and the more northerly location of the presumed contact on the South American continent are not unreasonable. They are consistent with the presence and distribution of the sweet potato, or kūmara.

This plant from the Americas is found throughout Eastern Polynesia. It gives us the strongest and most widely accepted archaeological and linguistic evidence of contact between Polynesia and South America.

Kūmara remains about 1,000 years old have been found in the Cook Islands in central Polynesia. When Polynesian colonists settled the extremes of the Polynesian triangle—Hawai'i, Rapa Nui, and Aotearoa New Zealand—between 1200 and 1300 AD, they brought kūmara in their canoes. So, contact with the Americas by that time fits with archaeological data.

Polynesians are among the greatest navigators and sailors in the world. Their ancestors had been undertaking voyages on the open ocean for at least 3,000 years.

Double hulled Polynesian voyaging canoes were rapidly and systematically sailing eastwards across the Pacific. They would not have stopped until they hit the coast of the Americas. Then, they would have returned home, using their well proven skills in navigation and sailing.

Food was an important item of trade within the Pacific-wide Māori trading network. Māori traded with other Pacific peoples for items such as yams, taro, and coconut, which were not native to New Zealand but were widely cultivated and consumed in other parts of the Pacific. This exchange allowed for the sharing of new food sources and helped to enrich the diets of Pacific peoples.

Another example of this network is the exchange of traditional textiles, such as tukutuku and Tapa cloth, which were made from woven fibres such as flax or harakeke and were used to decorate homes and clothing. The exchange of textiles allowed for the spread of different cultural and artistic styles and also helped to foster a sense of unity among Pacific peoples.

In addition to these tangible goods, the Pacific-wide Māori trading network also facilitated the exchange of knowledge and cultural practices.

Despite its importance, the Pacific-wide Māori trading network has not been widely studied or recognised by Western scholars until recently.[185] This is in part due to the fact that much of the network was established through informal and oral means, rather than through

[185] Pathway of the Birds – Andrew Crowe2018.

written records. However, recent research has shown that this network was a significant factor in the development of the cultures and economies of the Pacific.

## Traditional Trade Routes Renaissance

Moving into the present, a traditional renaissance is emerging across trading networks and collaborations between First Nations people globally. This is underscored by a revitalisation of traditional voyaging dating back more than 1000 years. The Polynesian Voyaging Society has been at the forefront of this movement.

In June 2023 the voyaging Waka Hōkūle'a set sail on four-year Pacific journey[186], a full circumnavigation of the Pacific**.** The purpose of the voyage, Moananuiākea, is to ignite a "movement of 10 million planetary navigators'' by developing Rangatahi and engaging communities across the world[187]. These reconnections open up unique values-based trading opportunities for indigenous people across the region.

The Hōkūle'a is a replica of an ancient Polynesian voyaging canoe, and was the first of its kind built in Hawai'i in more than 600 years. The journey began in Juneau, Alaska. Cultural blessings and celebratory dances were also held to launch the Moananuiākea Voyage.

Moananuiākea is the Hōkūle'a's 15th major voyage since 1975, and will sail an estimated 80,000km. "…this is about family – the family of the earth. And so, we go from one family to another, building relationships grounded in respect and trust - a crucial pathway for peace. It's whether this world is going to be healthy for our children."[189] Thompson, the chief navigator on the waka, said.

The arrival of Hokule'a in Honolulu from Tahiti, 1976.[188]

The Hōkūle'a will be joined by its sister waka, the Hikianalia, in Seattle, and from there an international flotilla made up of 400 traditional sailors will travel throughout the whole of the Pacific to Japan. The hikoi will travel from Alaska to; Seattle, the US West Coast, Mexico, Central America, South America, Polynesia, New Zealand, Melanesia, Micronesia, and Palau, then the West Pacific, ending in Japan.

[186] https://www.nzherald.co.nz/kahu/hokulea-expedition-will-visit-36-pacific-rim-countries/NP2C3PSYV5DZJIQYPWXBD4UWNU/

[187] ibid

[188] Phil Uhl, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0>, via Wikimedia Commons

[189] https://www.stuff.co.nz/pou-tiaki/132424058/ancient-voyaging-revived-as-hklea-sets-sail-on-fouryear-pacific-journey

It will then be shipped from Japan to Los Angeles and then it will sail to Hawaiʻi then down to Tahiti in 2027. This makes the hikoi the longest and most arduous traditional voyage undertaken in more than 1000 years.

This renaissance of traditional voyaging waka across the Pacific will revive ancient trading relationships with First Nations peoples. The voyaging waka can serve as vessels for trade and economic cooperation among First Nations peoples. Just as in ancient times, communities can exchange goods and resources, fostering economic relationships based on mutual benefit and sustainability. This can include sharing traditional products, arts and crafts, agricultural produce, and knowledge of sustainable practices. The voyaging waka can act as a catalyst for re-establishing and expanding trade networks across the Pacific.

The revival of traditional voyaging practices brings with it a revival of indigenous knowledge, traditions, and customs. By engaging in voyages and interacting with First Nations peoples, there is an opportunity for cultural exchange. This exchange can include sharing traditional navigation techniques, storytelling, art, music, and ceremonies. Such exchanges foster mutual understanding and strengthen cultural connections between different indigenous communities.

Traditional voyaging waka rely on an intimate understanding of the natural environment, including wind patterns, currents, and celestial navigation. By practicing and reviving these skills, the voyagers can reconnect with the ecological wisdom of their ancestors. This knowledge can be shared with First Nations peoples along the voyages, promoting environmental stewardship and sustainable practices. Additionally, the voyagers can learn from the ecological knowledge and practices of other communities they encounter, fostering mutual learning and cooperation in environmental preservation.

This can provide a sense of pride and identity, encouraging communities to revive their own traditional knowledge and customs. By participating in voyages, First Nations peoples can join together with other indigenous communities in celebrating and preserving their unique cultural identities. This can be developed to create a Pacific / South American wide unique provenance story for product developed within this network and a powerful and valuable Brand.

The voyaging waka can act as symbols of unity and cooperation among different First Nations peoples. By coming together for joint voyages, communities can build diplomatic relationships, fostering alliances, and promoting peaceful cooperation. This unity can strengthen the collective voice of indigenous communities in advocating for their rights, self-determination, and protection of their lands and resources.

Overall, the renaissance of traditional voyaging waka across the Pacific provides a platform for cultural exchange, economic cooperation, knowledge sharing, cultural revitalisation, and unity among First Nations peoples. It holds the potential to revive ancient trading relationships and foster stronger connections among indigenous communities throughout the region. This can support the development of regional mana motuhake and economic

cooperation, and it can provide a valuable platform for addressing global warming and sea level inundation across the Pacific.

The collective voice of indigenous communities in advocating for their rights, self-determination, and protection of their lands and resources against climate change and sea level rise can emerge from the hikoi.

The voyaging waka can serve as powerful platforms for raising awareness about the impacts of climate change and sea level rise on indigenous communities. By documenting their voyages, sharing stories, and engaging in educational outreach, indigenous communities can highlight the challenges they face and the urgent need for action. This can help mobilise support and solidarity from both local and international audiences.

Indigenous communities can actively engage in research to understand the specific impacts of climate change and sea level rise on their lands, resources, and cultural heritage. By conducting their own studies and collecting traditional ecological knowledge, they can contribute valuable insights to the broader scientific discourse. This knowledge can be used for evidence-based advocacy and policy recommendations, ensuring that indigenous perspectives and needs are included in climate change mitigation and adaptation strategies.

The voyaging waka can facilitate international collaboration and networks among indigenous communities facing similar challenges. By joining forces and sharing experiences, knowledge, and strategies, communities can strengthen their collective voice in advocating for their rights and protection. Collaborative efforts can include participating in international conferences, sharing best practices, and forming alliances with non-governmental organizations, indigenous rights groups, and climate justice movements.

Indigenous communities can use joint voyages and the symbolism of the voyaging waka to advocate for policy and legal changes at local, national, and international levels. This can include lobbying for stronger legal frameworks that protect indigenous rights, land, and resources, as well as advocating for policies that prioritize indigenous-led climate adaptation and mitigation initiatives. The voyages themselves can act as powerful visual representations of indigenous resilience and the need for urgent action.

Indigenous communities possess invaluable traditional ecological knowledge that can inform climate action and adaptation strategies. The voyaging waka can be platforms for showcasing and sharing this knowledge with policymakers, scientists, and other stakeholders. By incorporating traditional practices and wisdom into climate change planning and decision-making processes, indigenous communities can contribute to sustainable and culturally appropriate solutions.

By utilising the voyaging waka as symbols of unity, communities can amplify their collective voice, demand recognition, and advocate for their rights, self-determination, and protection of their lands and resources in the face of climate change and sea level rise in a more cohesive manner. It is crucial that indigenous communities are empowered to lead these efforts and that their voices are cantered in the decision-making processes related to climate

change and environmental policies. Such unity and collectivisation of the Pacific indigenous Voice can also impact on Loss and Damage funding distribution which can be used to stimulate climate resilient primary production and horticulture, to allow these communities to survive.

Loss and Damage investment into the development opportunity for First Nations people across the Pacific [and globally] is vast and multifaceted. Funding for a "just transition" could encompasses various sectors such as economic development, cultural revitalisation, education, healthcare, and environmental sustainability. All of these interlink into the enhancement of wellbeing, not just GDP.

Many indigenous communities possess rich natural resources, including land, minerals, forests, and waterways. With sustainable and responsible management, these resources can be leveraged for economic development. Indigenous-led enterprises, such as eco-tourism, renewable energy projects, sustainable agriculture, and cultural tourism, have the potential to generate substantial economic benefits for First Nations people globally.

Indigenous cultures, arts, and traditional knowledge are valuable assets that can contribute to economic growth. First Nations people can engage in cultural industries such as arts and crafts, traditional medicine, storytelling, music, and film production. By protecting and commercializing their intellectual property rights, indigenous communities can stimulate economic activity and create employment opportunities.

Investing in education and skills development is crucial for the economic advancement of First Nations people. By improving access to quality education, vocational training, and higher education, indigenous communities can equip themselves with the knowledge and skills necessary to participate in various sectors of the economy. This can lead to increased employment rates, higher wages, and overall economic growth.

Enhancing infrastructure and community development in indigenous territories can stimulate economic activity. This includes improving transportation networks, access to clean water and sanitation, housing, healthcare facilities, and telecommunications. Development projects in these areas can create jobs, attract investment, and improve the overall quality of life for First Nations people.

First Nations people have a deep connection to their lands and are often at the forefront of environmental stewardship. By promoting sustainable development practices, including renewable energy projects, conservation efforts, and sustainable resource management, indigenous communities can contribute to economic growth while preserving their cultural and natural heritage.

While it is challenging to quantify the exact GDP impact that First Nations people globally could stimulate in the next 10 years, it is evident that the wellbeing development opportunity is significant. Indigenous-led initiatives, sustainable economic practices, and the recognition of indigenous rights and self-determination can contribute to economic growth, job creation, and improved well-being for First Nations people who can use their own unique

skills and resources to advance. This must be autonomous to ensure that these development opportunities respect and uphold indigenous values, cultures, and rights, fostering inclusive and equitable growth.

In conclusion, the Pacific-wide Māori trading network was a complex and extensive system of trade routes and interactions that existed among the indigenous peoples of the Pacific Ocean, including the Māori of New Zealand. This network, established long before the arrival of European explorers, was based on cultural and economic ties and facilitated the exchange of various goods, knowledge, and cultural practices.

One significant aspect of this trading network was the exchange of obsidian and pounamu, which were highly valued for their practical and cultural significance. Additionally, the trading network involved the exchange of food items, textiles, and other goods, enriching the diets and cultures of the Pacific peoples.

The recent revival of traditional voyaging practices across the Pacific, symbolised by the voyaging waka, offers a platform for cultural exchange, economic cooperation, and knowledge sharing among First Nations peoples. These voyages not only revive ancient trading relationships but also strengthen cultural connections, promote environmental stewardship, and provide a collective voice for advocating indigenous rights and addressing the impacts of climate change.

The renaissance of traditional voyaging waka brings forth opportunities for economic growth, including indigenous-led enterprises, sustainable development practices, and the commercialization of indigenous cultures, arts, and traditional knowledge. Investing in education, infrastructure, and community development within indigenous territories also contributes to economic advancement and improved well-being.

While it is challenging to quantify the exact economic impact that First Nations people globally can stimulate, it is evident that the development opportunities, rooted in indigenous values, cultures, and rights, hold significant potential for inclusive and equitable growth.

By embracing their ancestral knowledge and working together, indigenous communities across the Pacific can forge stronger connections, celebrate their unique cultural identities, and create a sustainable and prosperous future for themselves and future generations.

# Early Export Development

Early export development in Aotearoa was largely driven by the wars in Europe that created a large demand for timber and flax for ship building and maintenance[190]. European cities also had a massive demand for seal and whale oil for lighting and lubrication.

The British government signalled their intention to begin trade relations with Māori in 1788 when New South Wales Governor Arthur Phillip was instructed to take immediate steps to procure timber and flax from them. Captain James Cook and Joseph Banks, the Endeavour's resident scientist, both recommended enthusiastically on the potential resources to be exploited for the British empire's purposes.

This created the precursors of the "Golden Age" of Māori Agriculture, where Māori controlled primary production, trade and export within growing markets. They were supplying the majority of the food to settler populations in Aotearoa. They also controlled coastal shipping in the North Island, and they were driving exports into Australia and eventually into many other countries.

It took until 1790 for traders to establish themselves and recruit a sufficient labour to service the industries. The primary labour pool was in the Australian colonies and consisted of some free men, former convicts and criminals that had escaped incarceration. The escapees would prove vital to the sealing industry as they wanted to work in places where they would not be recognised.

In fact, the first pākehā to take up residence in Aotearoa were sailors that jumped ship, either as criminals on the run or escaping terrible working conditions. They came to be known as Pākehā Māori, marrying into hapū, living according to tikanga and kawa, imparting what knowledge they had to Māori and even fighting alongside them in inter-tribal conflicts.[191] They became an integral part of early trading as intermediaries and translators with the traders that came thereafter.

The seal trade was the first to have a major impact to Aotearoa, environmentally as well as financially. Coupled with the need for the oil extracted from the seals was the British empire's addiction to tea, supplied to them by the Chinese in Macau and Canton. The Chinese were happy to trade this for seal skins and, on James Cook's information, the first crew of sealers extracted 4,500 seal skins in a year in 1792.[192]

Māori and Pākehā established good working relations with each other at this time, barring incidents like the skirmish at "murdering beach" in Otago. Māori joined sealing crews as hunters, sailors and interpreters and took the knowledge gained of the world unknown back to their people.

[190] King, M. (2003). The Penguin history of New Zealand (p. 183). Penguin Books.

[191] King, M. (2003). The Penguin history of New Zealand (p. 117). Penguin Books.

[192] https://nzetc.victoria.ac.nz/tm/scholarly/tei-McNMuri-t1-body-d1-d7.html

The level of seal exploitation in 1792 was merely the beginning and peaked in 1805 with the killing of 80,000 seals in Foveaux Strait, devastating the seal population in that area and creating conflict between hapū as they battled over sealing rights after this event.[193] Pākehā justified this by saying if they didn't take every animal they could find, someone else would.

A brief escalation of skin prices due to a shortage of supply in the 1820s briefly revived the industry but it died again when the seal population was hunted almost to extinction.

The next major industry to impact Aotearoa was timber. Kauri trees were ideal for masts and spars and entire Māori communities were involved in their shaping and extraction to supply the shipping market. However, the systematic exploitation continued for the next 100 years until, as per the seals, Kauri were decimated almost to extinction.[194]

Whaling had a massive impact on Māori life, environment and economy. The main peak of this industry occurred in the 1830s. Kororareka became the main port of call for the ships and was the site of the first sustained period of intensive contact between Māori and Pākehā. In 1830, as many as 30 ships were in port with a combined total of 1000 men and as many as 300 could be ashore at any one time. The need of the ships for supplies created an opportunity for Māori and they quickly established market gardens and supplied pigs to satisfy the need.

On shore whaling stations sprung up around the country providing Māori with new tools, styles of clothing, boats animals and plants and, as with the sealing industry, Māori and Pākehā worked together for the benefit of both. Māori also gained access to paid labour and Pākehā had access to raw materials for highly profitable business ventures.

It was not all beneficial however, the introduction of new diseases and convicts and alcohol had a profoundly debilitating effect on Māori. Entire communities were decimated by diseases that Māori had no immunity to, alcohol was a key driver in the creation of large-scale prostitution of Māori women and lawlessness and violence generated by the English residents described by Charles Darwin as" the very refuse of society" in places like Kororareka These all created an impact on Māori that would continue for generations.[195]

The entrepreneurial capability of Māori was widely recognised by pākehā at this time. In 1833, Robert Jarman on a trip to Sydney, observed large numbers of Māori and remarked upon them as being "industrious, intelligent, bold and enterprising"[196] and that New Zealand would be very important in future trading activity in the South Pacific.

Māori diversified the goods they traded and the markets into which they exported. In 1830, 3080 tons of potatoes and milled grain was transported into the Sydney market by Māori

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[193] https://www.fergusmurraysculpture.com/new-zealand/birds-and-mammals-11-pages/iii-fur-seals/

[194] King, M. (2003). The Penguin history of New Zealand (p. 125). Penguin Books

[195] King, M. (2003). The Penguin history of New Zealand (p. 122). Penguin Books

[196] Robert Jarman, Journal of a Voyage to the South Seas in the "Japan" Employed in the Sperm Whale Fishery Under the Command of Capt. John May, Beccles [England], 1838, p.149.

and in 1831, 1182 tons of flax was also exported there. Successful ventures into the sealing, whaling and timber markets also saw Māori dominating the Australasian export market.[197]

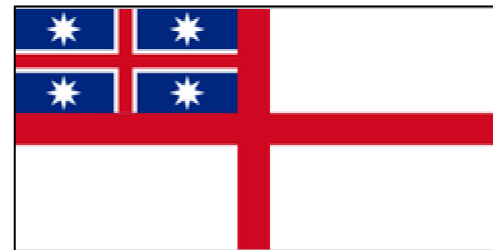
International trade conventions and conditions previously unknown to Māori became prevalent in the 1830s when a ship carrying two Chiefs was seized for not flying a national flag and the arrival of the French vessel, La Favorite in October 1831 provided impetus for Māori to petition King William IV for a strategic defence and trade alliance.

Having already established a strong economic relationship, Māori felt that Great Britain was the only country that was amenable to maintaining good relations and protecting Māori sovereignty at the same time. This was dispelled by 1840 with actions and annihilation policies under Governor Grey.

On the 22nd of December 1831, a presentation was made to the New South Wales Executive Council[198]. It highlighted the value of imports from New Zealand, being £34,282 12s and exports into New Zealand being valued at £30,760 2s 9d in that year.

Testimony was provided by missionaries and prominent traders in Australia and, coupled with the trade figures supplied, James Busby was appointed British Resident in 1833.

In 1834, a hui held by Busby with Māori chiefs discussed the details of international shipping and the difficulties with the custom regulations in Sydney.



Flag of the United Tribes of New Zealand[199]

To address this, the first national flag of New Zealand was created and in 1835 the **Declaration of Independence** was signed by the Confederation of United Chiefs. Its stated purpose was to regulate trade, preserve peace and initiate the beginnings of a justice system and laws.

It was also very clear that Māori were seeking this alliance to maintain tino rangatiratanga and mana motuhake to pursue their own economic opportunities.

Māori also used their political and economic ability in the international arena. A classic example of this is in 1864 when Paora Tuhaere, an ariki from Ngati Whātua travelled to Rarotonga on his 56-ton vessel on a political trading mission.

He sought to create trade relations with the Cook Islands and to encourage its annexation to New Zealand. Although the annexation was in direct response to British fears of France annexing the Cook Islands, as had happened with Tahiti, Tuhaere recognised the

[197] Petrie, H. (2002). Colonisation and the Involution of the Māori Economy [Paper for Session 24 XIII World Congress of Economic History].

[198] Manuka Henare, 'The Changing Images of Nineteenth-Century Māori Society – From Tribes to Nation', PhD thesis, Victoria University, Wellington, 2001, p.127. 22 Extract from Minute No. 66 Executive Council

[199] By No machine-readable author provided. Greentubing assumed (based on copyright claims). - No machine-readable source provided. Own work assumed (based on copyright claims)., CC BY-SA 2.5, https://commons.wikimedia.org/w/index.php?curid=559023

opportunity this provided for ingenious trading and commerce, through whakawhanaungatanga, and reconnection with Kainuku Tamako, an Ariki in Rarotonga. The two had established a connection when Tuhaere had visited in 1862. Tuhaere was bestowed with Ariki status and gifted whenua, 2000 men and large plantations of bananas, coconuts, oranges, limes, breadfruit, taro, kūmara and other crops. This relationship was further cemented by intermarriage between Tuhaere's entourage and Tamako's people.[200]

In 1857 the results of surveys conducted in the Tuwharetoa and Mātaatua rohe [being the central North Island and east to Whakatane] were released by the Attorney General.

In only 15 years since the signing of the Treaty, approximately 8,000 tangata whenua across the two tribes had cultivated and produced an estimated 1,000 acres of kūmara, 2,000 acres of maize, 3,000 acres of wheat, and 3,000 acres in potatoes.

They had approximately 200 head of cattle, 2,000 horses, and 5,000 pigs. Their agriculture and production plant and equipment comprised of 4 watermills, 96 ploughs, 43 coasting vessels and 900 waka. They supplied 46,000 bushels of wheat for trade in that year, valued at £13,000.[201]

The notion held by Pākehā (non-Māori New Zealanders) that communal ownership, limited innovation, and a lack of ability to delay gratification were inherent traits of kin-based societies, including the Māori of New Zealand, has been much discussed. It was believed that these characteristics acted as obstacles to economic development and hindered significant economic transformations. However, the available evidence concerning the Māori during the mid-nineteenth century casts significant doubt on this theory.[202]

Māori demonstrated a remarkable level of entrepreneurship and innovation, effectively managing and accumulating communal resources to enhance well-being, maximise returns, and expand their business ventures within their socio-cultural enterprises. This outstanding socio economic development model was, and can be again, a te Ao Māori primary Production [TAMPP] model that can revolutionise agriculture and primary production in New Zealand, addressing most if not all of the current challenges face by the sector such as breaches of established planetary boundaries, diminishing profitability, restrictions in exports driven by changing consumer preferences and a lack of social licence to continue the current exploitative regime.,

As stated, Māori not only succeeded but outmatched their European counterparts in primary production, export, trade and fiscal autonomy. Given the dominant position this gave Māori within primary production, which was ostensibly developed by nothing more than lawless savages, this was unacceptable to the colonisers.

[200] Māori messenger: Te Karere Māori, volume iii, issue 4, 15 may 1863, page 1

[201] William Swainson, New Zealand and its Colonization, London, 1859, pp.65-66.

[202] Petrie, H. (2002). Colonisation and the Involution of the Māori Economy [Paper for Session 24 XIII World Congress of Economic History].

Therefore, the breaking down of Māori social, cultural and economic structures using tried and true colonising processes was required and this was achieved under the guise of bringing civilisation to a savage people. This was nothing short of a convenient guise, used to cover the avarice of the colonial settler greed, who viewed their racial characteristics, religion, politics and technology as guaranteeing their superiority over and above indigenous peoples.

This allowed the settler government to justify the invasion and confiscation of lands and destruction of people who [under a signed Treaty] had sought to benefit all who lived in Aotearoa, from the interaction between the two cultures, whilst protecting their lands, customs and communities from being overtaken and absorbed.

In the 1850s "golden years" for Māori they held mana motuhake over their lands and were financially totally independent, thriving within their traditional social / cultural enterprise model that had adapted to a colonial development opportunity. This was a significant threat to tauiwi, and the colonial agenda driven by white privilege and the dominant culture views in the UK.

Settler self-government was established in 1852. To counter the potential political power of the Māori population, which at that time outnumbered the settler population, the ability to vote was based on individuals owning their own land titles, effectively denying Māori any option of sitting at the decision-making table, because for tangata whenua they did not "own" the land, they were derived from whenua and mana tiaki [guardianship] thereof. Thus, the white dominance of democracy began.

The clear inequity of this coupled with the fact that Māori were the driving force in New Zealand's economy became an issue at the forefront of New Zealand politics.[203]

1856 estimates of population contribution to customs revenue by Māori and Europeans were reported as being a rate of 51 to 36.[204] Māori were out producing, and out-trading tauiwi, despite being viewed by many as stone-aged savages.

This inequality [the reverse of what we see today] was concerning to Pākehā. For them it painted the wrong picture. Thus - later estimates were amended to reduce the proportion of contribution by Māori in an attempt to justify or mitigate the continued disparity.

In 1856, Colonial Treasurer CW Richmond stated that Māori customs figures were greatly exaggerated, and that Māori shared in the benefits of civil government. His reasoning for this was that Māori used public works such as roads and piers and that "every second craft alongside the pier of the port of Auckland is owned by Māori".

He also stated that "it would be a great error to represent that they derive no benefit from the administration of law and preservations of order in the European settlements". By

[203] New Zealander, 13 Feb 1847

[204] Enclosure 1 in No. 96, T Gore Browne to the Right Hon. H. Labouchere, 31 May 1856, GBPP Vol. 10, p.228.

which he meant that the settlements existence depended on these institutes and Māori would have no one to sell their goods and services too if they weren't there.[205]

Conversely, politicians who had previously been against government funding being directed towards Māori were coming to acknowledge their contribution towards the national economy, coupled with the lack of Māori in government and loans granted going towards their agricultural production improvements, they stated these should not be withheld nor should there be dissatisfaction felt about Māori receiving assistance.[206]

Increasing economic and political marginalisation, along with concerns about the uncontrolled influx of immigrants led to the rise of Māori nationalism. In the late 1850s, Wiremu Tamihana led a movement uniting many Māori tribes under a King who would have the power to withhold land from sale, thereby regulating the pace of settlement. Te Wherowhero, a Waikato chief, was the first king to take up this position in 1858.

Governor Gore Browne acknowledged the fragile loyalty of Māori to the government, noting that they were constantly reminded of their power and significant contributions to the country's revenue. Browne later suggested that Māori themselves select a chief to represent their interests, justifying public funding for the initiative based on Māori substantially contributing to the country's revenues.[207]

This period of history underlines several key issues that have profoundly impacted Aotearoa. Māori seized on the opportunities provided with the introduction of new technology and information provided by the influx of Pākehā into the country and their communities.

Māori proved to be innovative and entrepreneurial, outperforming their pākehā counterparts substantially in the "Golden Years" and created international trade relationships with multiple countries. This continued to flourish until Pākehā discontent and envy drove them to create inequity and undermine Māori autonomy.

Establishments of settlements such as Kororareka provided significant opportunities but also significant cost. Alcohol and disease created major impacts that continued to be felt for decades, even up to today.

The exploitative practices of Pākehā demonstrated in the seal, whaling and timber industries showed a culture that was driven by a profit motive and totally disconnected from indigenous values. This continues into the present day where modern practices in the

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[205] C. W. Richmond, Memorandum by Responsible Advisers on Native Affairs, 29 Sep 1858, GBPP Vol. 11, pp.34-5.

[206] Donald McLean, Memorandum of Assistant Native Secretary Relative to Native Territorial Rights Bill, 13 Oct 1858, GBPP Vol. 11, p.55.

[207] AJHR 1860, E no. 1c, p.4.

primary industries have caused wide-scale damage the whenua, awa and moana to a point where over half of our awa are un-swimmable[208] and our hills fall into the sea.

Māori have been asked, then forced into assimilation of pākehā societal practice and structure, at a cost to their own. This has led to the breakdown of Māori social structure, reflected in current Māori mental health, incarceration and deprivation statistics.

Early pākehā integration into Māori society in the late 1700s shows that the two cultures can survive and thrive together, but only when Pākehā integrate indigenous values and practices into their own and showed respect for the people and environments from whence they came.

Mātauranga Māori has been touted in government circles and in the primary production sector in recent years as being the saviour of New Zealand, its' environment and its economy.

If we are to recreate an environment where both cultures work together again, indigenous values and practices must be understood and adopted to form that basis of change and a new model. They should not be "integrated" into current production systems where there is still non-indigenous dominance and control, as history has shown that this will simply fuel inappropriate misappropriation of cultural values and principles within an exploitative and profit motivated sector of our society, which does not acknowledge or value indigenous rights and practises.

If the re-emergence of a TAMPP system eventuates, which is highly likely given the contemporary capability Māori have within communities that still maintain traditional principles and practises, this will be a Tino Rangatiratanga land use and production system. As we have seen in the early history of colonisation within New Zealand, Pākehā who were successful in being integrated into Māori society did so by adopting tikanga Māori and Kawa practises.

This provides a valuable lesson on how nonindigenous farmers might be able to find inclusion in a TAMPP production system. It would require significant cultural immersion and what could be termed reverse assimilation.

[208] https://niwa.co.nz/publications/water-and-atmosphere/water-atmosphere-7-june-2013/qa-is-new-zealand-really-clean-and-green

# The Land Grab

## Edward Gibbon Wakefield – The New Zealand Company 1839

One of most detrimental and insidious events in the colonial history of New Zealand followed the forming of the New Zealand Company, designed by Edward Gibbon Wakefield in 1839, which aimed to promote and establish settlements in New Zealand. The impact of this company's operations were devastating for Māori and ruinous for many Pākehā settlers, fooled into investing in this colonisation model.

The New Zealand Company Coat of Arms[209]

An investigation into the principles and the practises used in this colonisation facsimile informs why this country was ultimately led into civil disorder and land wars, further inspection shows how the colonisation model used in the mid-1980s still has insidious tentacles which impact on contemporary society today. Remarkably – too little is known by contemporary society on Edward Wakefield, the New Zealand Company and the true history of colonisation are not part of the educational curriculum taught in schools within New Zealand today.

The company was driven by Wakefield's beliefs of white superiority, greed, and the British principles of colonisation, which included the importance of selecting settlers based on their social status[210], the necessity of land ownership and [supposedly] the need to maintain a balance between the interests of the settlers and the indigenous Māori people. However, the New Zealand Company's methods of acquiring land and its treatment of Māori resulted in conflict and controversy, leading to significant negative consequences for both the settlers and Māori.

The key aspect of the New Zealand Company's philosophy of colonisation was the selection of settlers based on their social status. This was driven by Wakefield who believed that the success of a colony depended on the quality of the settlers and their ability to establish a stable and prosperous community.

As a result, the company aimed to attract wealthy and educated individuals who could contribute to the development of the colony. The working class could only attain this status by working and saving for a few years to begin their social climb.[211]

[209] By Archives New Zealand - https://www.flickr.com/photos/archivesnz/16051045881/in/album-72157649292890288/, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=45524610

[210] Ralston, Caroline. "The People and the Land. Te Tangata me Te Whenua. An Illustrated History of New Zealand, 1820–1920 by Judith Binney, et al." New Zealand Journal of History 25.1 (1991).

[211] ibid

The company's methods of acquiring land included manipulation and theft and resulted in conflict with the indigenous Māori people. The New Zealand Company used a system of purchase and sale of land that relied on the principle of "effective occupation," which meant that the company claimed ownership of the land based on the presence of settlers, rather than any legal or moral claim.

This approach ignored Māori ownership of their land and resulted in discord as Māori resisted the takeover of their whenua. Deviously – in 1839 the Company had sold 1,000 land orders before they had actually bought any land at all.[212]

At this time, the British Colonial Office began negotiating with Māori chiefs for sovereignty over New Zealand. The New Zealand Company, recognising that political manoeuvring could severely impact on its survival, quickly established its first settlement in Wellington, but it was poorly organised and suffered from the Wakefield "system."[213]

In 1840, the Treaty of Waitangi led to the creation of courts by the Government,[214] which declared that most of the Company's supposed land purchases from the Māori were invalid. The Company and its agents immediately set out to undermine the Treaty's principle of Māori land rights, denying their rights and attacking them with ridicule.

The demand for "local government" began when the NZ Company's settlers arrived at Petone and established their own government with courts and officials, acting as if they had the authority of the Crown. It was clear from the beginning that the Company's agents and officials wanted to exercise sovereign rule and believed that New Zealand was made 'specifically for them'. They believed they had the right to rule, legislate for their own benefit, acquire large estates in land as their inheritance, and use public money and credit for themselves and their allies, all under the guise of constitutional or representative government.[215]

The New Zealand Company succeeded in negotiating terms with the Colonial Office in 1841 to the point that Lord John Russel, the Colonial Secretary, granted it a charter of incorporation, land and recognised it as an instrument of government in the colonisation of New Zealand. Thereafter - every pound spent came with an entitlement to 4 acres of land.[216]

Wakefield tried over this period to convince the British government to adopt his views regarding Māori land rights and eventually succeeded in 1844 when a House of Commons

[212] https://collections.tepapa.govt.nz/topic/1216

[213] Ralston, Caroline. "The People and the Land. Te Tangata me Te Whenua. An Illustrated History of New Zealand, 1820–1920 by Judith Binney, et al." New Zealand Journal of History 25.1 (1991).

[214] The Life and Times of Sir George Grey, K.C.B. by William Lee Rees, Chapter XIII. Short History of the New Zealand Company, NZETC.

[215] ibid

[216] https://collections.tepapa.govt.nz/topic/1216

committee recommended that the Crown take possession of all lands not occupied by the Māori.

In 1846, Earl Grey expressed this opinion in a despatch to the Governor, and thereafter the Act of 1846 and Charter included provisions for the registration of Māori lands that, if enforced, would have stripped the Māori of most of their ancestral territories.[217]

Despite this, the struggle between those who sought to control New Zealand and those who opposed them, which began in 1840 between Captain Hobson and the Wake fields, continued with Captain Fitzroy in 1843. It then expanded and involved Sir George Grey, Bishop Selwyn, and Sir William Martin on one side of the debate, and Sir William Fox, Sir Charles Clifford, Dr. Featherston, Mr. Weld in the other, [and many land speculators and jobbers who supported them].

The directors of the New Zealand Company continued with their plans to establish two additional settlements, buoyed by government support. The settlements of Nelson and New Plymouth were founded in October and November 1841, respectively, and John Saxton and his family were among the first group of settlers to arrive in Nelson in 1842. Saxton painted a panorama of Nelson in 1842, which was used to illustrate Jerningham Wakefield's Adventure in New Zealand (1845), as it was consistent with the Wakefield view of colonial life.[218]

Cartoon in Punch: Emigration a Remedy[219]

However, by the mid-1840s, all four of the New Zealand Company settlements faced detrimental issues. The immigrants were dissatisfied with the misleading information put out by the Company's London office. They were told that New Zealand was a fertile paradise with unlimited economic prospects, and that almost every form of agriculture, manufacturing, and commerce was possible with high returns. The Company also portrayed Māori as eager to adopt Western ways and products, while downplaying the difficulties of pioneering and suppressing negative reports about New Zealand.[220]

<u>None</u> of the settlements succeeded in realizing Wakefield's theoretical model. The Company's methods of attracting land buyers encouraged land speculation rather than

[217] The Life and Times of Sir George Grey, K.C.B. by William Lee Rees, Chapter XIII. Short History of the New Zealand Company, NZETC.)

[218] ibid

[219] https://viewsofthefamine.wordpress.com/punch/here-and-there-or-emigration-a-remedy/

[220] ibid

genuine farming, and absentee landlords had no need for labourers, as they had only purchased the land as an investment.

The gentry in Wakefield's model for settlement envisioned a hierarchical society with the gentry at the top. Wakefield believed that the gentry's wealth, education, and leadership abilities would be essential to creating a successful settlement, but they did not immigrate. Wakefield's model encouraged land speculation as opposed to actual farmers invested in developing the land and as such, there was not enough work for the hundreds of laborers who had arrived in the settlements.

While Wakefield's vision of a utopian society based on the principles of private property and individual enterprise was attractive to many settlers, the reality of life in New Zealand was often very different. One of the main challenges faced by settlers was the physical environment. New Zealand's rugged landscape, unpredictable weather, and unfamiliar flora and fauna made it a difficult place to live and work.

The voyages to New Zealand were often devastating with immigrants facing death and disease even before landing in Aotearoa. Once here, they found that they did not have the required infrastructure, finance, expertise, seed, stock, or fertiliser to be able to farm.[221]

After the failure of his 'scientific model', Wakefield saw that the gentry were not providing the leadership that he had envisioned, and so he turned to a new model of settlement based on religious communities. He believed that religious communities would provide the leadership and guidance that the gentry had failed to provide, and that they would establish strong, cohesive communities based on shared values and beliefs.[222]

The religious settlements of Otago and Canterbury were established based on this new model, with the hope of creating successful, ordered communities, with shared values and beliefs.

This model proved to be moderately more successful in the early stages, there being some lessons learned from the first attempt but, ultimately, it too succumbed to the same problems the 'scientific' model did. The majority of settlers did not have a sufficient array of skills to keep the settlements cohesive and the lack of support from the company and even, ironically, Māori communities that provided the northern settlements with food.[223]

They were largely absent in the South Island which meant that the settlers often experienced severe depression from the lack of social connection, poverty and hunger.

[221] https://collections.tepapa.govt.nz/topic/1216

[222] Ralston, Caroline. "The People and the Land. Te Tangata me Te Whenua. An Illustrated History of New Zealand, 1820–1920 by Judith Binney, et al." New Zealand Journal of History 25.1 (1991).

[223] ibid

Overall – for those that had believed and invested heavily in Wakefield's vision, it was an extraordinarily hard life mixed with broken promises and inept management.

The impact of the New Zealand Company's approach to land acquisition on Māori was devastating. The company's actions resulted in the loss of traditional Māori land, which had significant cultural and spiritual value. Māori communities were displaced, and their way of life was disrupted.

The loss of land also had economic consequences for Māori, as their traditional means of subsistence, such as hunting and gathering, were no longer possible. The loss of land and the disruption of Māori communities contributed to the ongoing conflict between Māori and settlers, which would have lasting consequences for both groups.

The general treatment of Māori by the New Zealand Company was a significant issue. The company's approach was often paternalistic, with little regard for Māori culture or values. The company assumed that Māori needed to be "civilised" and encouraged to adopt European ways of life.

This approach ignored the rich cultural heritage of Māori and contributed to a sense of alienation and disenfranchisement. Māori were often treated as inferior and were denied the same rights and opportunities as settlers. This unequal treatment fuelled conflict and resentment between Māori and settlers.

Māori who operated in partnership with the settlers, applied traditional tikanga and kawa to maintain the integrity and the mana of the relationship. But the settlers treated them as uncivilised savages who had no concept of law. The settlers called for Māori rights to be disregarded or for them to be forcibly removed from lands they had occupied and protected as communal resources and assets, for more than 35 generations prior to the arrival of tauiwi.

Wakefield's colonisation model promoted genocide and annihilation, foreshadowing the policies developed later by Governor Grey in his second term of office, which led directly to unlawful attacks on Tainui Waikato and Taranaki and the Māori land wars in that region, which later spread across the whole of the North Island.

The company's approach to land acquisition and settlement had a profound impact on the natural environment. The arrival of settlers led to deforestation, soil erosion, and the destruction of natural habitats. The company's focus on agriculture and livestock farming resulted in overgrazing and the depletion of natural capital. The loss of natural resources had significant consequences on biodiversity loss.

The impact of the New Zealand Company on the land was not limited to environmental damage, however, as it also had social and economic consequences. The settlers viewed the Māori as inferior and often mistreated them, leading to further conflicts and tensions between the two groups.

One of the most notorious tactics employed by the New Zealand Company was its systematic manipulation of the land market in order to inflate the prices of land in the colony. The company used a well-known speculation scheme known as "systematic colonisation" to purchase large tracts of land at low prices from Māori tribes, which it then subdivided and sold to European settlers at exorbitant rates.[224]

The company's agents often used false claims about the fertility and potential of the land to entice settlers, and employed aggressive sales tactics that left many buyers deeply in debt. This strategy caused significant financial hardship for settlers and contributed to widespread conflict and unrest in the colony.

Another tactic used by the New Zealand Company was its promotion of settlement in areas that were already occupied by Māori tribes.[225]

The company believed that Māori land ownership was an obstacle to the development of the colony, and actively sought to undermine Māori sovereignty and rights to their ancestral lands. The company's agents frequently used deceit and coercion to obtain land from Māori tribes[226], and often ignored or circumvented Māori customary law in the process. This led to numerous conflicts and outbreaks of violence between Māori and European settlers, as well as inter-tribal rivalry and contributed to the erosion of Māori autonomy and the dispossession of Māori people from their ancestral lands.[227]

The passing of new legislation empowered and emboldened the settlers' trading companies and retailers, and they would offer credit to Māori knowing full well that their ability to repay the debt was constrained at best. The most insidious use of this tactic was to provide individual family members with provisions as loans for tangi in times of grief and great stress. These tangi could amass hundreds of people.

The debt, [often left deliberately to languish for months or years] that should have been assigned only to the individuals who obtained the provisions, was there after extended to people who had land within that region. The new legislation allowed the traders to then seek retribution through the courts and have the land confiscated to pay for the debt, even though there was no legal obligation on those landowners to repay that debt.

[224] https://en.wikipedia.org/wiki/New_Zealand_Company#CITEREFBurns1989

[225] Burns, Patricia (1989). Fatal Success: A History of the New Zealand Company. Heinemann Reed.

[226] Ralston, Caroline. "The People and the Land. Te Tangata me Te Whenua. An Illustrated History of New Zealand, 1820–1920 by Judith Binney, et al." New Zealand Journal of History 25.1 (1991).

[227] https://teara.govt.nz/en/history-of-immigration/page-3

Oftentimes there was no evidence that those who ultimately lost land had even attended the funeral, but indigenous landowners did not have sufficient understanding of the court process to be able to protect their land or rights. When they protested, the court proceedings often dragged on for many months, meaning that those who wished to defend their land rights had to relocate to the cities to attend court hearings.

The monument listing the names the European casualties of the Wairau "Affray"[228]

This resulted in many of those tribal members abandoning the proceedings because they had no accommodation, no source of income and no food when the proceedings dragged on for months on end.

This process was used again and again across many of the regions, particularly in the North Island where Māori ownership of land was a constraint to the expansion of colonial settlements in those regions.

In the South Island, a noteworthy example of the New Zealand Company's underhanded tactics is the 1840 purchase of the Wairau Plains, which resulted in the Wairau Massacre.

The company's agent, Arthur Wakefield, attempted to purchase the land from the Ngati Toa tribe without the knowledge or consent of the tribe's leader, Te Rauparaha. When Te Rauparaha learned of the sale, he became angry and refused to vacate the land. Arthur Wakefield, along with a group of armed settlers, attempted to forcibly remove Te Rauparaha and his followers, resulting in a violent confrontation that left 22 people dead. The incident highlighted the company's disregard for Māori customary law and contributed to the breakdown of relations between Māori and European settlers in the South Island.[229]

The Company's approach to colonisation had long-lasting effects on both the Māori and the settlers. The loss of land and cultural identity had a devastating impact on the Māori, leading to a decline in their population and their way of life. The settlers, too, suffered from the consequences of the Company's actions, as their mistreatment of the Māori led to ongoing tensions and conflicts that would continue for decades.

As the New Zealand Company's debts increased, it went into decline. In 1850, it ceased operations as a colonising body and surrendered its charters. Finally, in 1858, it was dissolved, but long reaching tentacles of this colonisation model stretched out into the future.

[228] By Mike Dickison - Own work, CC BY 4.0, https://commons.wikimedia.org/w/index.php?curid=124990878

[229] King, Michael (2003). The Penguin History of New Zealand. Penguin Books.

The principles and the practises used by British colonisers are still evident in land use dominance within New Zealand today and the early adoption of those white privileged policies have crafted legislation here in New Zealand since the 1800s.

This still drives social injustice, institutional racism, financial constraints and legislative bias, which continue to underpin massive cultural deprivation and socio-economic inequality for the indigenous people of Aotearoa / New Zealand today.

This is not just evident here in NZ. It is found in every colony established on indigenous whenua. ***"Only when the last tree is cut down, the last fish eaten, and the last stream poisoned, you will realise that you cannot eat money." - Cree Indian Proverb.***

**Sadly, once the damage was done in those lands, and generations later**, Franklin D. Roosevelt stated. "A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people."

Leading the American people through the Great Depression and serving during World War II, FDR had a lifelong interest in the environment and conservation. During his presidency he increased the National Parks and National Forests schemes, helping grow annual visitors from a little over 3 million to nearly 15.5 million in 1939.

Here in Aotearoa, Tauiwi in the primary production sector, and in fact across all sectors of New Zealand society, are now turning to Māori and suggesting that Mātauranga Māori holds the key to the development of sustainable land use practises, unique brands, circular economies, regen ag, and social licensing of production, [and improved premium returns].

This is particularly ironic given that those practises were systematically dismantled using racist and assimilative policies for more than 180 years since the signing of the Treaty of Waitangi.

Those traditional land use practises are explored further and articulated within this paper.

The adoption [and cultural misappropriation] of traditional Māori practice in the 21st century is no less than a colonisation pivot towards further dominant culture control of indigenous resources and intellect, aimed at the continuance of profit within an extractive land use model that is founded in racism, land confiscation and inequality.

It will, if allowed to continue, perpetuate, or enhance socio–economic deprivation within rural Māori communities across Aotearoa and drive primary production further outside of the now well accepted planetary boundaries of sustainability and climate crisis mitigation and adaptation.

The British colonisation model bought to Aotearoa was a decrepit failure under Wakefield. What followed was an agriculture-based land grab that depleted natural capital to such an

extent that the current primary production model has outpaced most if not all measures of sustainability.

Britain now looks to indigenous values as a solution. *"The sustainability revolution will, hopefully, be the third major social and economic turning point in human history, following the Neolithic Revolution – moving from hunter-gathering to farming – and the Industrial Revolution." - Prince [now King] Charles.*

Inherent needed in the Treaty settlement process is a recalibration of values and a focus back onto remedial action needed to ensure a positive legacy is left for the Mokopuna of the future. Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The protests on the restoration of the Waikato River, which pre-empted the Tainui settlement, was seen at that time by tauiwi as being confrontational activism. But the activists were solution focused.

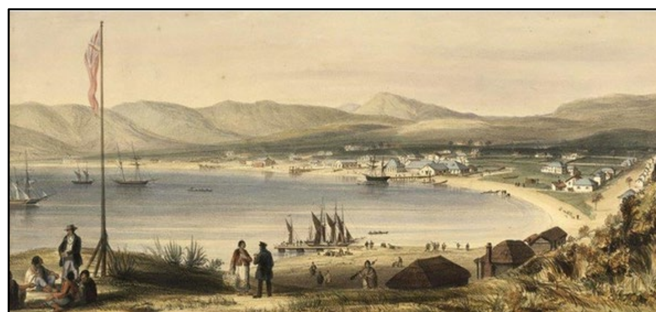
*"The activist is not the man who says the river is dirty. The activist is the man who cleans up the river."* **- Ross Perot**

## Settler Reality

The settlers who bought into Wakefield's model of colonisation in New Zealand faced a range of challenges and difficulties. While Wakefield's vision of a utopian society based on the principles of private property and individual enterprise was attractive to many settlers, the reality of life in New Zealand was often very different.

His vision failed to account for the realities of life in the colonies, including the difficulties of establishing social and economic institutions from scratch. This lack of planning made it difficult for settlers to establish successful communities and contributed to social and economic problems.

One of the main challenges faced by settlers was the physical environment. New Zealand's rugged landscape, unpredictable weather, and unfamiliar flora and fauna made it a difficult place to live and work.



Historic image of Te Aro Flats - now Wellington waterfront[230]

An early example of this is the settlement of the Heretaunga awa (Hutt

[230] https://wellington.govt.nz/wellington-city/about-wellington-city/history/history-of-wellington-waterfront/colonial-times

River) flats in 1839. William Wakefield left instruction for Lambton Harbour to be settled. However, the company surveyor placed the town at the mouth of the Heretaunga as there was enough flat land for implementing the plan. Six immigrant ships arrived in early 1840 and, with the help of local Māori, huts were built on the foreshore and the settlement was named Brittania. In an what could be described as an extreme example of foreshadowing, the settlement was swept away when the Heretaunga awa flooded.[231]

Another challenge was the social and cultural context. The settlers often found themselves in conflict with Māori communities, who had their own customs, traditions, and values. The settlers' emphasis on private property and individual enterprise often clashed with Māori concepts of communal ownership and social obligation, leading to tensions and disputes, as demonstrated by the Wairau conflict.[232]

Settlers also found that even getting to New Zealand was a nightmare. Gross mismanagement by the New Zealand Company and its employees of the Lloyds ship in 1842 is one such example.[233]

On Tuesday, February 12, 1842, the barque Lloyds arrived in Nelson, New Zealand, carrying the wives and children of the settlers who had left England ten months earlier. The day was sunny and matched the excitement of the inhabitants. However, their joy turned to horror when it was discovered that 65 children had died during the voyage, almost half of those who had embarked in Deptford. Sixteen families had lost all their children.

The Lloyds had experienced a prolonged and difficult journey. The ship had stopped at St. Jago and the Cape of Good Hope for supplies due to sickness and mortality among the passengers, particularly the nursing children. The deaths were attributed to diarrhoea and, later, symptoms of scurvy.[234]

An inquiry was held which concluded that George Bush, the ships' Surgeon Superintendent had shown incapacity and a lack of judgment in discharging his duties as the surgeon superintendent. The New Zealand Company, responsible for the settlement, was concerned about the implications of the high death toll on their reputation and plans for colonisation. Making immediate moves to deflect the blame, they attributed the deaths to the protracted bad weather during the early part of the voyage, affecting the young children's constitutions[235].

However, the inquiry revealed several failings. Bush had discovered a case of whooping cough among the passengers but was overruled when he tried to deny passage to the infected individuals.

[231] https://teara.govt.nz/en/wellington-region/page-7

[232] https://natlib.govt.nz/blog/posts/the-wairau-affray-a-series-of-unfortunate-events

[233] I.H Campbell The tragic voyage of the Lloyds to New Zealand: was her doctor a villain or a scapegoat?

[234] TNA CO 208/24 - Bush to the Secretary of the New Zealand Company, 15 October 1841.

[235] TNA CO 208/187 - New Zealand Company Shipping Committee Report 24 February 1842

The food supply was also deemed inadequate, potentially due to harsh weather conditions making proper food preparation difficult and the captain's withholding of supplies for profit. The crew's misconduct, particularly Captain Green's liaison with a female passenger, Marian Graham, contributed to the breakdown of order on board.

In retrospect, the New Zealand Company acknowledged the mistakes made and implemented measures to prevent the transportation of families with infectious diseases on future voyages.

The established settlements in Auckland and Wellington offered little incentive to the next wave of settlers as all the prime development land was already gone. The subsequent waves of settlers looking to maximise profit by early sale of the land supposedly purchased found that the land had either not been legally acquired, not been acquired at all or needed to be clear felled, which was not an attractive model as it reduced the quick sale opportunity and increased the cost.

Many immigrants moved to new colonies to seize the first wave opportunity to make a quick profit. Military officers and their families would often be transient due to the nature of their employment and, as even transport by horse was prohibitively expensive, the ones that stayed often went weeks without contact with others.[236]

The depression of 1842-45 in New Zealand had a major impact on settlers in New Zealand. It was caused by a combination of factors, including a global economic downturn, declining demand for wool, and a shortage of available credit. The crisis began in Britain and quickly spread to other countries, including New Zealand, which was still heavily reliant on trade with the British Empire.[237]

The depression had a significant impact on settlers in New Zealand. Many had invested heavily in land and farming, and the sudden drop in wool prices and demand for agricultural products left them struggling to make ends meet. Credit became scarce, making it difficult for settlers to borrow money to invest in their farms or pay off debts. Some settlers were forced to sell their land and livestock at a loss, while others went bankrupt or were forced to abandon their farms altogether.

The depression also led to social unrest and tensions between settlers and the colonial authorities. Many settlers blamed the government for not doing enough to support them during the crisis, and there were several protests and demonstrations throughout the country. The government responded by imposing austerity measures and cutting back on public spending, which further exacerbated the economic downturn and created additional hardships for settler.

Economically, many settlers found it difficult to make a living. The monoculture economy that had been established in New Zealand was highly vulnerable to fluctuations in global

[236] Ralston, Caroline. "The People and the Land. Te Tangata me Te Whenua. An Illustrated History of New Zealand, 1820–1920 by Judith Binney, et al." New Zealand Journal of History 25.1 (1991).

[237] ibid

markets, and many settlers struggled to make a profit from farming or other primary industries. The lack of access to capital and credit also made it hard for settlers to invest in new ventures or expand their businesses.

Eventually, due to lessons being learned and more support provided, in particular the support provided to the settlers by local hapū, these settlements would become more cohesive and successful for the later waves of settlers but, for those that had believed and invested heavily in Wakefield's vision, it was an extraordinarily hard life mixed with broken promises and inept management.

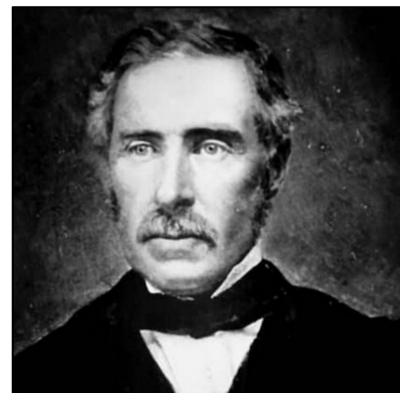
## The Waikato Wars – Initiating a Policy of Annihilation

The illicit war perpetrated against Tainui Waikato remains one of the darkest shadows in the history of colonisation in Aotearoa New Zealand. The calculated and deliberate policies of annihilation implemented by Governor Grey in his second term of office led to the largest displacement of Māori in the history of this country and the largest illegal confiscation of whenua Māori, which left an entire tribes impoverished and landless.

View of Taupō Kainga from the Taua Tapu Track.[238]

### Governor Grey – First term of Office

In 1845, Grey was appointed as the governor of New Zealand for his first term of office where he faced multiple challenges. The government was short of funds, and there were violent disputes between settlers and Māori, mainly over land claims. Grey's efforts to secure resources to enable him to manage these challenges were successful. He received financial support and troops, which his predecessor had been denied. In the north, he occupied Kawiti's pa, Ruapekapeka, which had already been evacuated, and thereafter, he left Heke and Kawiti isolated acquiescing in a partial Māori victory. Grey reassured the Māori that no land would be confiscated, but he seized Te



Governor George Grey[239]

[238] By Archives New Zealand from New Zealand - View of Taupō Kainga from the Taua Tapu (Pukerua) Track, Plimmerton, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=51249315

[239] https://e-tangata.co.nz/history/a-dark-tale-of-dispossession-and-greed/

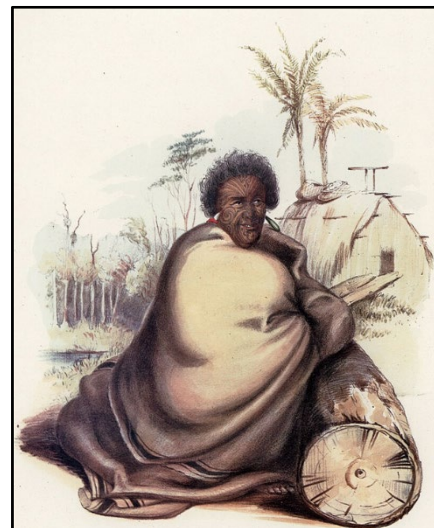
Rauparaha and imprisoned him without trial. Thereafter the fighting came to an end for more than a decade.[240]

Grey's management of Māori affairs between 1845 and 1853 was his greatest success as a colonial governor. He scrupulously observed the terms of the Treaty of Waitangi and assured Māori that their rights to their land were fully recognized. Procedures were evolved for negotiating a sale at a tribal meeting, and the meeting had to agree to the sale. Frequently, large numbers of Māori signed the purchase agreement, the land then became Crown land and was sold to settlers at a profit, which provided significant government revenues. Approximately 30 million acres of Māori land were purchased for £15,000 in the South Island, and about 3 million in the North Island, and the European settlements expanded rapidly.[241]

However, Grey's efforts to 'civilise' the Māori were less successful. He appointed resident magistrates, assisted by Māori assessors, to introduce British laws in Māori districts, subsidized mission schools, which were attended at any one time by no more than a few hundred Māori children, and encouraged Māori agriculture, for instance, by lending money for the purchase of flour mills. Most of this was admirable, but overall, the total impact of 'culture contact' with Europeans was less so.

Grey was highly esteemed by some Māori, and he was frequently accompanied by a group of chiefs. He persuaded prominent chiefs to document their stories about Māori traditions, myths, and practices. His principal contact, Te Rangikāheke, taught Grey to speak Māori and lived with Grey and his wife in their home. Grey's relations with the settlers were often less happy. His understanding of tikanga and kawa gave him the success in dealing with Māori that eluded his predecessors. For example, a Rangatira was refusing to allow a road to go through his rohe. Grey sent his sister a carriage as a gift knowing that tauutuutu would apply and the Rangatira would have to balance out the gift by allowing the road.[242]

He received from Earl Grey, the secretary of state for the colonies, a set of instructions to implement a complex constitution that conferred representative parliamentary institutions on the settlers. This would give a minority made up of one race power over a majority made up of another. Grey knew that Māori would not have accepted this. The potential for Māori protest and the use of at a time when settler numbers were low was enough for Grey to refuse to implement the policy. The constitution was suspended by an imperial act of 1848 and Grey continued to govern as a despot.[243] In 1853, he applied intense personal pressure on the Wairarapa chiefs to set up extensive purchases before his departure.



King Pōtatau Te Wherowhero[244]

One of the strongest relationships formed was with Potatau Te Wherowhero – the first Māori King.

[244] https://commons.wikimedia.org/wiki/File:P%C5%8Dtatau_Te_Wherowhero_by_George_French_Angas.jpg

Governor Grey asked Te Wherowhero to become the protector of Auckland and so Te Wherowhero lived at the domain at Pukekawa, and Pukekaroa. He lived at Mangere and bought a number of Ngati Mahuta people with him from the Waikato, to be trained by the militia of the time, as a protectorate of Auckland.

Grey and Te Wherowhero had such a relationship that, when young Matutaera (later Tawhiao) fell out with his father, he was shipped off to Grey's residence on Kawau island, to learn some diplomacy and he stayed there with Te Rauparaha's daughter. Later, when Te Rauparaha was imprisoned on a boat in Auckland, Te Wherowhero petitioned Governor Grey to release him to his cottage at Pukekawa and so Te Rauparaha was kept under "house arrest" in Te Wherowhero's house due to that relationship with Governor Grey.[245]

Grey was not universally supported in his role as Governor. In late 1853 Grey received a lot of criticism for holding early elections for the provincial councils without also calling for elections for the central body, the General Assembly, which didn't meet until May 1854. Some people argued that this entrenched provincialism, but this criticism was not very convincing because provincialism was already deeply ingrained in New Zealand society. Grey believed that the governor and the provincial councils were the most important parts of the constitution. He also made a valid point when he said that delaying the General Assembly was necessary to avoid the logistical challenge of holding simultaneous meetings since many members of the provincial councils would also be in the General Assembly and were easier to summon.

George Grey's first term of office ended when he left NZ in 1853 to take up his post as the Governor of Cape Colony and High Commissioner for South Africa. In South Africa, Grey had to deal with fractious race relations, especially the frequent wars on the eastern frontier. He sought to convert the frontier tribes to Christianity, to 'civilise' them, and break down the tribal structure. He used reservations as a way of "protecting" African tribes whilst at the same time demilitarising them. He is quoted as saying of this that they were, "as real though unavowed hostages for the tranquillity of their kindred and connections".[246] Grey supported mission schools and built a hospital for African patients. However, his interest in non-European customs did not extend to approving of their systems of government.

In 1857, a cattle-killing millenarian movement occurred in which the Xhosa people killed their stock and destroyed their crops in the hope of replenishing their cattle and crops through ancestral spirits. This resulted in widespread disorder, and Grey had to provide

[241] https://teara.govt.nz/en/biographies/1g21/grey-george

[242] King, M. (2003). The Penguin history of New Zealand (p. 183). Penguin Books

[243] King, M. (2003). The Penguin history of New Zealand. Penguin Books.

[244] https://commons.wikimedia.org/wiki/File:P%C5%8Dtatau_Te_Wherowhero_by_George_French_Angas.jpg

[245] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

[246] Bell, Kenneth (1928). Select Documents on British Colonial Policy, 1830–1860. Oxford: The Clarendon Press. p. 504.

relief and maintain control with army and police units. He had some of the leading chiefs arrested, tried, and condemned to death or deported.[247]

Grey's relations with the Colonial Office deteriorated due to overspending, his proposal of a South African federation, and his retention of too many troops during the Indian Rebellion of 1857. He was recalled to London in 1858 but was later sent back to South Africa.

Grey faced significant turmoil in his personal life as well. He was accused of being unfaithful by his wife, and during their return journey to South Africa, she developed a romantic relationship with Rear Admiral Sir Henry Keppel, which ultimately led Grey to have her disembarked in Rio de Janeiro. It took them 36 years to reconcile their differences and mend their relationship.[248]

Battle of Te Ngutu o Te Manu, Taranaki, New Zealand.[249]

All of these issues and events had I significant impact on Grey which later resulted in far reaching implications for New Zealand Māori, when he later took up his second term of office as Governor.

In 1860, a war broke out in Taranaki, New Zealand, over the disputed purchase of the Waitara block. Governor Thomas Gore Browne tried to maintain Māori affairs under his imperial control, but this was failing, so George Grey offered to return to New Zealand to make peace. Before leaving Cape Town, Grey criticised Browne and mis- informed the Colonial Office on a number of matters pertaining to Browne, which later were shown to be untrue. Grey later privately admitted that his information was false. [250] Grey's conduct during this time showed that he had lost his good judgement and was constantly under increasing strain.

## Governor Grey - second term of office

When Grey arrived for a second governorship in 1861, he, from the outset, made preparations for a military confrontation with Waikato, and the heartland of the Kingitanga movement. In 1861, with was erupting in Taranaki and with the looming confrontation with

[247] https://freshwriting.nd.edu/volumes/2017/essays/examining-the-unseen-reasons-behind-the-xhosa-cattle-killing

[248] https://en.wikipedia.org/wiki/Eliza_Grey

[249] https://commons.wikimedia.org/wiki/File:Ngutu.jpg

[250] https://teara.govt.nz/en/biographies/1g21/grey-george

the Kingitanga emerging, he seemed to be the person who would come back and restore things. [251]

Unfortunately, things had changed quite dramatically during his stay away. Grey misread that. He was an avid autocrat at a time when Māori were asking for the Treaty partnership to be honoured.

Governor Grey's predecessor, Governor Gore-Brown, had been on the verge of invading Waikato on the basis that many Māori from the Waikato district had intervened in the Taranaki war. As Gore-Brown saw it, they were implicated in rebellion and that invasion was timed to begin in the Spring of 1861.

Grey arrived and those invasion plans were called off. Had the invasion gone ahead then, it would have been catastrophic for the Crown, they almost certainly would have lost.

He decided that the crown is in no position to confront the Kingitanga, so he began his preparations for war - strategically. His first move was to order the construction of the Great South Road [funded by the Bank of New Zealand], from Auckland to the Waikato River so that troops could launch an invasion over land, into the heart of the Waikato and into the "breadbasket" of Aotearoa at that time. The Great South Road was designed to be an all-weather road and an essential prerequisite for an invasion of the Waikato basin. Overland access to the Waikato River from Auckland was severely restricted by densely wooded hills. Even the outlying settlements of Papakura and Drury were served by 'roads' that were little more than dry-weather dirt tracks. Construction of the Great South Road began in January 1862. Every available soldier was deployed to clear the forest and form the road. Each regiment was responsible for a section of the road, with bonuses offered for each cubic yard of scoria (hard volcanic rock) moved. On average 1700 men worked on the road each day.[252]

There were people that were still moving in and out of Tamaki and in and out of the Waikato selling their goods; their flax, their wheat etc and so they were bringing information back to the Waikato about the road construction and troop numbers. So, the construction of the Great South Road was a clear warning that war was pending. [253]

By this time, the relationship between Te Wherowhero and Grey broke down when Grey asked him to put the Kingitanga aside and Te Wherowhero refused.

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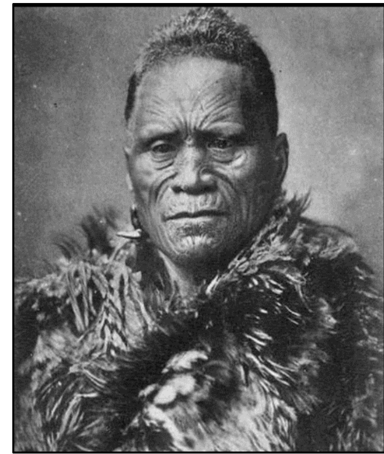
[251] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Vincent O'Malley | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=Gpv0KSIM4KM

[252] https://nzhistory.govt.nz/media/photo/devils-nest

[253][RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

Grey knew that he couldn't attack Te Wherowhero because the word of the motu [country] was their bond and te mana of the kupu ko te mana o te tangata, [the authority of the spoken word was the authority of the people] so those who supported Te Wherowhero to become the King would be honour bound to come and support Te Wherowhero against Grey, if he initiated war. Grey knew he could not win against the might of the collective Māori tribes, at that time.



King Tūkāroto Matutaera Pōtatau Te Wherowhero Tāwhiao[254]

After his father's death, Tawhiao became the King, and some of the honour bound relationships established between tribes by/with Potatau eroded. They had passed away with Te Wherowhero. Some said that they were only there to try to consolidate Māoridom for a time. Conversely there were a number of tribes that were still in support so Tawhiao in his role as the new King and along with Matutaera, they met with Grey.

Once again Governor Grey made the same demand of Tawhiao as he had with his father - "Tukua to Kingitanga ki raro," denounce the Kingitanga and pledge allegiance to Queen Victoria. Tawhiao stated that Kingitanga belonged to the people not him, and he would not swear such an allegiance. [255]

On hearing this demand, Tawhiao held a council of leaders, some of them being born before the 1800s. They were steeped in tikanga and kawa and the old ways. They could see the risks of colonisation and continued to try to repulse the influence of Governor Grey, over Tawhiao and over their people.

They told Grey "Kau ko te mana o te kingi, me te mana o te Kuini, he rite." - No, the mana of the King and the mana of the Queen are equal. [256]

Grey, reportedly, then went out of his way to antagonise the Kingitanga, who were concerned about steamers being potentially placed on their river, and the build-up of troops.

In his first term of office, Grey was an amateur ethnographer; very interested in Māori culture and waiata and collected books when he established his mansion on Kawau island.

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[254] By Unknown. Part of the photograph album of the Boileau family's voyage from England to Australia in 1894-1895, including ports of call to Gibralta, Colombo, Adelaide, Melbourne, Tasmania, Sydney and New Zealand - National Library of Australia, URL:[1], Reference No. nla.pic-an3366506-193, Public Domain, https://commons.wikimedia.org/w/index.php?curid=1722516

[255] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

[256] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

He imported exotic flora and fauna and was, by the standards of the day, quite a cultured man being seen as progressive, civilised, humane figure, partly being based on his first governorship of New Zealand in the 1840s.

However - unlike the former Grey, who was held in high regard, Grey was now in his 50s, recently separated from his wife and was also an opium addict. [257] Some observers speculated that this was influencing his decision making at the time of the Waikato invasion.

In 1861, Grey found out the old methods that he employed in the 1840s, and what his critics called the “flour and sugar policy” [whereby he provided grants and loans to Māori for purchasing farming equipment, ships and mills, and bound them into debt] no longer worked. Nor could he get away with his former flattery anymore. [258] Māori were wise to his tactics.

Grey taunted the King and his supporters and in one of his final meetings with Kingitanga leaders in January 1863, he was reported as saying he would flood the Waikato with his animals, drink all their water, and eat all their crops. Tawhiao remained unmoving, responding to Grey’s question on what he would eat when all of the food was gone, saying that if so, he would eat Grey himself.[259]

Grey then stated he would dig around the Māori king until he fell of his own accord.

For many Kingitanga supporters that was further confirmation that Grey would not allow the Māori King to survive, and it was clear by then that there was going to be an invasion.

During this time, the Colonial office sent orders to him to send the troops back to wherever they came from, because costs were mounting. But Grey was confident of launching an invasion of Waikato in July 1863. [260] He refused the orders and kept building the troops.

In total, there were about 18,000 Crown troops[261] engaged in the invasion of Waikato, mostly consisting of British Imperial regiments but also colonial troops and a few Māori allies, [playing a very limited role and mostly ferrying goods.]

This was a professional standing army belonging to Britain, the world's leading superpower in the 1860s, waging war against a civilian indigenous population who had no army, supplies or intent to go to war.

Grey was concerned about his reputation. The British public opinion of Grey at the time was, ironically, that he was a great humanitarian and he attempted to preserve that even as he

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[257] Collective, Aotearoa Media; Air, Great Southern Television | Made with the support of NZ On (3 February 2021). "Documentary: NZ Wars: Stories of Tainui". RNZ. Retrieved 25 June 2022.

[258] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Vincent O'Malley | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=Gpv0KSIM4KM

[259] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

[260] https://teara.govt.nz/en/biographies/1g21/grey-george

[261] https://en.wikipedia.org/wiki/Invasion_of_the_Waikato

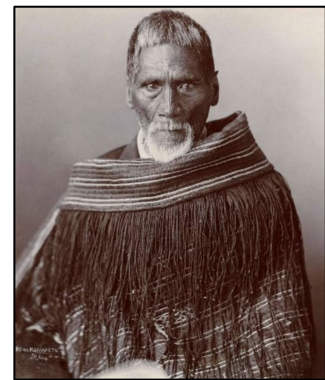
launched an invasion on innocent civilians in the Waikato, who were guaranteed the same rights as British civilians under the Treaty. To counter this, Grey made it appear as if he was left with no alternative. [262]

Conflict and the pursuit of his annihilation policy was irrefutably his primary objective.

## The History of the Tainui and the Wars - The Narrative

Prior to the unlawful invasion of the Waikato, Māori agriculture, domestic trade and export trade to New South Wales was flourishing. It is often asked, 'why did this model and dynamic agriculture decline in only a short number of years.' The following answers that question – definitively.

The invasion of the Waikato was a predetermined war of conquest, to put into practice a colonial policy of annihilation designed to take possession of the rich primary production and fertile lands in the Waikato region – to feed the ever-growing colonial hunger for land and revenue. The war was an indefensible invasion on the Crown's part. Governor Grey attempted to justify the unjustifiable through assembling a dossier of evidence that supposedly incriminated Tainui, but on analysis it did no such thing. [264]



Rewi Maniapoto[263]

By example, Rewi Maniapoto was supposedly intent on attacking the settlement of Auckland. This was one of the justifications cited for invading the Waikato as a pre-emptive move. In fact, Rewi had no such intentions and was returning from a tangi in Taupo when the invasion began. He was forced to rush home to defend his community from the invasion that was unfolding. [265]

It is proposed that Grey like many other pākehā in the 19th century saw the Treaty as a Treaty of cession, Māori had ceded sovereign to the Crown. They didn't see it as something that guaranteed Māori citizenship, much less a place in the governance of Aotearoa.

A critical factor in the lead up to the invasion is the demographics / population number change. For most the period after the Treaty was signed in 1840, they didn't change for most of New Zealand, outside settlements like Auckland or Wellington.

[262] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Vincent O'Malley | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=Gpv0KSIM4KM

[263] https://picryl.com/media/rewi-maniapoto-the-great-Māori-fighting-chief-26aad8

[264] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Vincent O'Malley | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=Gpv0KSIM4KM

[265] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Vincent O'Malley | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=Gpv0KSIM4KM

Māori were still in control of their own affairs, and this was something that grated with a lot of settlers, but they were not powerful enough to do anything about it, being hugely outnumbered.

By 1858, the Pākehā population of New Zealand was just under 60,000[266] and New Zealand was under military occupation through this period. Settler numbers had reached parity with Māori for the first time ever and suddenly Settlers felt that they were strong enough to confront Māori. Within two years of population parity, the Taranaki war broke out in March 1860.

By 1858, Māori, despite being the majority landowners in New Zealand, were being shut out of the newly formed New Zealand Parliament and saw the need to have a head of state having the same stature as Queen Victoria, as a means to have direct relationship with the Crown and exercise their mana motuhake. The Kingitanga was established in 1858 to implement this.

Wiremu Tamihana[267]

Wiremu Tamihana, a noted chief of Ngati Haua, was a key figure in the establishment of the Kingitanga. He recognised there was a change in the relationship between Māori and Pākehā when he went to speak to the former Governor Gore-Brown on a plan to create a peaceful dialogue between Māori Hapū and Pākehā. After waiting for more than a day to speak the Gore-Brown, he was finally advised by a clerk that "you'll have to crawl through my legs" to get there. [268] He thus became critically aware of the intentions of the colonisers and their blatant disrespect for the indigenous people and the Treaty.

Leaving in disgust, Tamihana then turned his efforts towards establishing the Kingitanga, which finally culminated when Potatau Te Wherowhero, a great Ariki from the Waikato, agreeing to be the King.

## Kingitanga – The King Movement

There were two proclamations made by Grey, in the immediate lead up to the invasion of Waikato; the first on 9th of July 1863 stated all Māori living between Auckland and Waikato should swear their allegiance to Queen Victoria or immediately leave their whenua. [269]

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[266] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-2

[267] By Gottfried Lindauer (1839-1926) - http://www.lindaueronline.co.nz/Māori-portraits/wiremu-tamihana, Public Domain, https://commons.wikimedia.org/w/index.php?curid=28315575

[268] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

[269] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Vincent O'Malley | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=Gpv0KSIM4KM

Ironically, many of the communities who had received that oath were living around the South Auckland area and had first settled there in order to protect the settlers of Auckland. They were now being told to pick up their belongings and go and many of them assume that if they signed the oath of allegiance, they would be required to fight for the Crown against their own kin, which they refused to do.

The communities at Mangere, Ihu Mātou and elsewhere were driven from their lands at gunpoint, leaving behind their cattle, hives, flour mills, waka, urupa, and intergenerational connection to their lands. Much of this was looted by settlers in Auckland who rounded up cattle and took them to Auckland and auction them off.

On the 11th of July a second proclamation was created saying that the Crown is about to move into Waikato. The Māori should comply with instructions, and those who offer resistance will forfeit any rights that they have under the Treaty of Waitangi. It was dated the 11th of July but a Crown official at the time, John Gorse, noted that it wasn't delivered until the 14th or 15th of July. [270] A draft of the proclamation dated the 13th of July has been sighted in times since.

The significance of this is profound. The Waikato was invaded on the 12th of July, before the proclamation was delivered. The ultimatum might have saved Māori lives and lands had they complied with these terms, but it was still being written after Waikato was invaded.

In context - the first Geneva Convention was signed in 1864. Appropriate military conduct was well understood at this time. This made it impossible under that Convention for the standing army to go to war against civilians. When the troops were attacking Tainui, who did not have a standing army, it is inevitable that they would kill innocent people who weren't offering any resistance.

This war crime and atrocity was repeated time and again with the attack on Rangiriri, Rangiaowhia and Ōrākau, with the killing a woman and children.

General Duncan Cameron arrived in the country in 1861 to take command of British troops in New Zealand. Originally, he was looking forward to confrontation but became increasingly disillusioned with the war and with what his troops were being asked to do as the war continued. [271]

He and many of the troops were questioned why they were fighting and dying in the war for the benefit of settlers in New Zealand, coming to see it is a land grab that they, themselves, benefitted from in no way whatsoever.

Up to 2/3rds of the rank-and-file soldiers in the British Army who served in the New Zealand army were Irish, and they knew well the original blueprint for British imperialism. Ireland was where the British utilised all their policies of invasion and confiscation. A lot of those

[270] J.E Gorst, The Māori King, Hamilton and London, 1959 p245

[271] https://teara.govt.nz/en/biographies/1g21/grey-george

men could increasingly see the parallels with the history of their own country, being asked to do to Māori what had been done to their own people.

At the same time, the British taxpayers were questioning why they should be funding a war on the other side of the globe for the exclusive benefit of settlers in New Zealand? There were also humanitarian movements started in Britain that had a campaign against the war and land confiscations, as news of this began to filter back to Britain.

Eventually the decision was made in 1866 to withdraw all British troops from New Zealand [272] and Grey was removed from office by the British government in 1868. [273] After that, in the later phase of the war was fought exclusively by colonial troops and the Māori allies on the Crown side.

### Land and River Power – Rangiriri

In the battle of Rangiriri, Māori were outnumbered with approximately 500 defenders against approximately 1400 trained Crown troops and militia.[274]

The British had armour plated steamers with 40-pound Armstrong guns that had a firing range of over 2 kilometres. The Kingitanga had no equivalent and were not only outnumbered but outmatched in terms of military technology.

The Waikato invasion began in July 1863, and by the end of the month, the first of the iron-clad steamers arrived. This was crucial to be able to transport troops, heavy artillery and supplies into the heart of the Waikato rohe. The steamers were also able to fire upon Pā and waka from the river.

In defence Māori counteracted by building novel and adapted Pā. Rangiriri Pā had an almost one-kilometre-long and 4-metre-deep trench that ran from the Waikato river across to lake Waikare. When the British attempted to scale the Pā on the 20th of September 1963, they found the ladders weren't long enough and became easy prey for Māori to fire upon them. As they made repeated attempts to storm ahead, they suffered heavy casualties.

The night before the end of the battle, there was a big downpour and the gunpowder supply of the Māori got wet. The Rangatira questioned what they could do about this and decided to negotiate a temporary cease fire. They articulated this to the British, but the following morning, the British took the Pā via an act of subterfuge, when Māori inside the Pā raised a white flag for the truce to begin and to negotiate. [275] Instead of sending a delegation to discuss terms the colonial troops flooded into the Pā. The defenders called out, “homai te

[272] https://en.wikipedia.org/wiki/George_Grey#cite_note-rnz.co.nz-3

[273] Sinclair, Keith (7 April 2006). "Grey, George 1812–1898". Dictionary of New Zealand Biography. Retrieved 14 September 2011.

[274] Belich, James (1986). The New Zealand Wars. Auckland: Penguin. pp. 142–157. ISBN 0-14-027504-5.

[275] https://nzhistory.govt.nz/war/war-in-waikato/rangiriri

paora, homai te paora" – give us the gunpowder, they wanted the troops to give them powder so that they could continue to fight. [276]

This had consequences later in the war, Māori were thereafter reluctant to pause the fighting and or surrender for fear that they would also be taken prisoner.

At Rangiriri, when the battle as looking grim for the Māori, the woman and the children were ordered by the Rangatira to retreat through the trenches and into Lake Kopuera, cross into Waikare and escape back into the Waikato. The colonial troops at that time had reached the crest of the hill overlooking the lake and started shooting them in the water.

Some of the young mothers had children on their backs when trying to escape across the lake. They were shot through the back [child and mother] in the water. The bones of small children have continued to wash up on the lake shore for many years, over many generations.

A picture from a newspaper clip of the Rangiriri Prisoners[278]

Those that were incarcerated after the battle were taken through to Auckland, including women and children and were initially held on a boat in the Auckland harbour, the Marion. [277]

There was a lot of sickness on the ship, so the prisoners escaped to Kawau island. From there they made it to the homeland where Ngati Manuhiri reside and Ngati Wai, Te Kawerau a maki. They were gifted "te kotahi rau eka", the 100 acres given to them to settle on and recoup. [279] Finally, they made their way home down the western coast, crossing the Manukau and then back into the Waikato.

Had they not escaped it was clear what the fate of those 180 Rangiriri prisoners, including women and children may have been – they could have been hanged for rebellion.

It wasn't until the battle at Hairini, a precursor to the attack on Rangiaowhia, that Wiremu Tamihana understood that this battle was for the whole of New Zealand, not just the Kingitanga. When he saw what the colonial troops did at Rangiaowhia, he knew that they wouldn't stop at the Waikato and that this was a war for the whole of the country.

[276] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

[277] https://nzhistory.govt.nz/media/photo/prisoners-war-taken-rangiriri

[278] https://teara.govt.nz/en/zoomify/36916/rangiriri-prisoners

[279] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

After Rangiriri, he convened a hui with the other leaders including Tawhiao and started sending letters attempting to negotiate. But there were no negotiations - the agenda of the militia and the colonial Govt at that time hadn't been fulfilled.

They wanted to get to Rangiaowhia because that was the breadbasket that was providing kai for the colony, for Auckland, for trade into Australia, into the Americas and as far afield as London. The troops travelled up the Waipa River, making their way through to the Pāterangi line, the big Pā that was far enough away from the river that the gunboats didn't have an impact.[280]

As soon as Cameron got there, he saw the structure of the Pā and decided against attacking it.

Wiremu Tamihana and others of the time had tried to negotiate areas where the fighting would occur, and other areas were to be left alone.  But the colonials, recognising the strength of the Pā, employed guerrilla warfare tactics at Rangiaowhia to entice the warriors from Pāterangi to come out and it succeeded. This is further discussed in the Case Study of Rangiaowhia section of this paper.

The troops then went on to Ōrākau. Māori were not intending to use Ōrākau as a main battle site due to it being too open, unfinished and the swampy terrain made it entirely unsuitable for fighting. The intent of Rewi Maniapoto was to move back to Otorohanga, where the terrain was much more favourable for battle.

Ngati Whare and Ngati Manawa had provided some support along with Tuwharetoa and Whanganui. Tūhoe and Kahungunu had arrived and there were several of the Tairawhiti expedition making their way over to support also.

Despite the protestations of Tainui, against going to battle at Ōrākau, when Tūhoe arrived and said they didn't carry their guns all this way to just sit here and have korero, Rewi Maniapoto had to honour them because Tainui had put out the karanga / call to come and support them.[281]

The battle was more like a siege. The militia occupied the dry ground and cut off access to the river.

There were women and children providing powder and shot to the warriors. The Māori troops were running out of ammunition and when the pākehā militia saw this and said send your women and children out and they would be unharmed.

But the killing of women and children and Kopuera and Rangiaowhia had shown Māori that they didn't trust the word of the enemy and they refused. The women, notably Ahumai te Paerata from Ngati Te Kohera and Tuwharetoa said to the Militia, "*Ki te mate nga tane, me*

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[280] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

[281] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

*mate ano nga wahine me te nga tamariki*" – If the men are to die, the woman and children will die also.[282]

It was here where the phrase "Ka whawhai tonu mātou, ake, ake, ake" - We will fight on forever and ever originated, said either by Rewi Maniapoto or Ahumai Te Paerata.[283]

Munitions became so scarce that Māori used peach pips as shot and they knew they couldn't last much longer and needed to make a break for the river. Rewi lead the vanguard to get to the river, taking the militia by surprise, getting close to the river. Realising the Māori were escaping, the troops [once again] shot them from behind – men, women and children alike.

Photograph of six Ngāti Maniapoto survivors of the Ōrākau battle.[284]

Casualties were very high at Ōrākau, reportedly the highest of any battle between Māori and the Crown during the war. Many Māori also escaped through the Puniu river to safety. Almost immediately after that that Tawhiao had peace talks with General Cameron, putting his hat on the map near where the Puniu river was, saving the people in "te Rohe Potae" in the King County.

Tūhoe lost many men in this battle. Few returned home and the fallen are remembered and honoured by Tainui, their deaths creating a whanaungatanga bond between the two tribes. There are a number of Poupou in the Rewi Maniapoto commemorative park that bear the names of Tūhoe that had fallen.

### The Aftermath

Following the war, approximately 1.2 million acres of whenua in the Waikato was confiscated by the Pākehā. A war perpetrated against a peaceful people, who were provisioning the very troops who came to annihilate them. This definitively answers the question - why and how did the unprecedented agriculture and trading success, developed by Māori within only a short number of years following first European contact, perish. It succumbed to genocide.

This colonial model was then repeated across the whole of the North Island, tribe by tribe and region by region, designed to drive Māori from the arable lands they had peacefully occupied for multiple generations, to feed the colonists greed and hunger for farmable land.

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[282] https://nzetc.victoria.ac.nz/tm/scholarly/tei-CowHero-t1-body-d16-d1.html

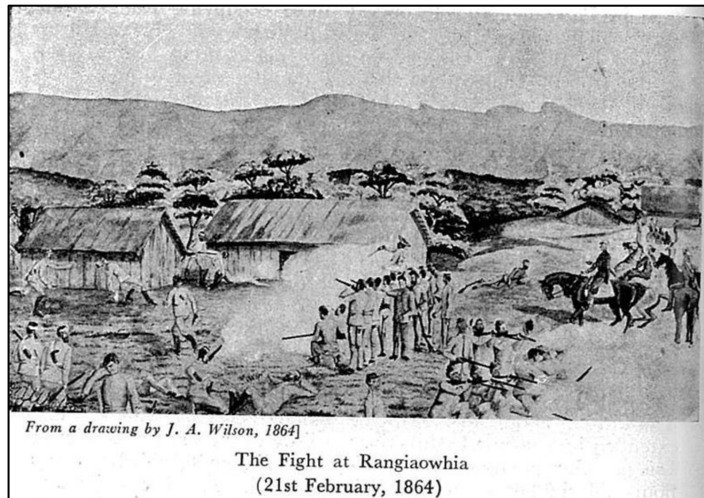
[283] [RNZ]. (2021, February 12). NZ Wars: Stories of Tainui | Extended Interview - Rahui Papa | RNZ [Video]. Youtube. https://www.youtube.com/watch?v=OPtrAr6pi2M

[284] James Cowan in 1914. Ref: 1/1-017975-G

This set the foundation for agricultural development and later for industrial farming that has now proven to be devastating in terms of its impact on the environment.  It has breached 5 of the 9 planetary boundaries and this colonial model now no longer has a social [or cultural] licence to continue.  It is thus cynically ironic that the primary production sector is now often noted for contending that Mātauranga Māori holds the solutions to the dilemma they now face.

## Rangiaowhia

The unlawful violence and War perpetrated against Tainui Waikato, who had been loyal supporters of colonial settlers in the Auckland region and defenders of bi-cultural harmony, together with the sacking of Rangiaowhia, must be considered the darkest stain on the history of Aotearoa.



From a drawing by J. A. Wilson, 1864]
The Fight at Rangiaowhia
(21st February, 1864)

The fight at Rangiaohia. February 21 1864[285]

Before the Waikato wars, Rangiaowhia was the granary of New Zealand. It was renowned for the wheat that grew there as well as many other agricultural products. It was the heart of a thriving Māori economy that fed local tangata whenua and especially the settlers of Auckland, Nelson and other pākehā settlements. Produce from that region, which was exported to New South Wales, formed the very foundation of agricultural export within New Zealand history.

In Rangiaowhia, hundreds of Pākehā and Māori people lived in harmony. But Pākehā were not at the apex of the social hierarchy.

Many Pākehā, who settled in the Waikato in the 1840s and 1850s, married into Māori and they were expected to abide by Tainui tikanga [the rules of customs]. In a sense they self-assimilated into Māori society.

Rangiaowhia was definitive because it was the agricultural production food bowl of the region, well before Pukekohe had boomed as a market garden centre in Tainui. It provided for not only the whanau and hapu across the Kingitanga, but also all of the people in the surrounding rohe.[286] It formed a hub or by traditional trading base where kai would come

[285] https://commons.wikimedia.org/wiki/File:The_fight_at_rangiaowhia.jpg

[286] Pouhere Tāonga A journey through the Waikato War (2014)

from Kawhia and other regions. Primary produce was being brought via the river systems, Taro and wheat etc would come from the inland areas as well as the market gardens that had been established.

In the centre of this thriving agricultural region, Rangiaowhia was not a Pā, it was an open village with no defences and was a place of sanctuary for women, children and old men.

Rangiaowhia had always been seen as a major strategic objective for the colonial forces. Destroying the food bowl would be essential to breaking the Kingitanga as it was critical to providing supply lines to the various battlefronts.[287] It had also been long coveted by pākehā due to its food producing capacity and the economic benefit therein. Being in possession of such lands was an opportunity to great to be ignored.[288]

Rangiaowhia had been extensively protected by three lines of defence against probable attack, those being Meremere, Rangiriri and Pāterangi. Each of these lines were defended but each fell to colonial forces. Pāterangi was defended by 2000 men, outnumbered at the time, when the British had 7000 men south of Ngāruawāhia.[289]

After the battle at Rangiriri, in November 1863, the Kingitanga had been criticised for the presence of women and children in the Pā.[290] Grey had written to the Kingitanga and asked that they be sent elsewhere to a place of safety, and they sent them to Rangiaowhia.

Nine days before the attack on Rangiaowhia, a message was passed via Bishop George Selwyn, the acting chaplain to the British Army that Rangiaowhia had been nominated as a place of sanctuary for the non-combatants. There was an expectation that this would be complied with. Instead, the people of the village found themselves under attack.

Crown forces arrived before dawn on Sunday the 21st of February, there was panic and terror amongst the people there who ran for their lives. Some sheltered in the churches and there was an attack on a group of Māori sheltered in a Whare Karakia, which was a non-Christian place of worship.

Some British troops were shot in defence of the women and children under attack, and that enraged their comrades at arms. Eventually the decision was made to deliberately set the Whare Karakia alight.[291]

[287] Ralston, Caroline. "The People and the Land. Te Tangata me Te Whenua. An Illustrated History of New Zealand, 1820–1920 by Judith Binney, et al." New Zealand Journal of History 25.1 (1991).

[288] Pouhere Tāonga A journey through the Waikato War (2014)

[289] Ralston, Caroline. "The People and the Land. Te Tangata me Te Whenua. An Illustrated History of New Zealand, 1820–1920 by Judith Binney, et al." New Zealand Journal of History 25.1 (1991).

[290] Inglorious Dastards: Rangiaowhia raid and the 'great war for New Zealand'". NZ Listener. Retrieved 6 March 2021.

[291] Inglorious Dastards: Rangiaowhia raid and the 'great war for New Zealand'". NZ Listener. Retrieved 6 March 2021.

An old man attempted to surrender, holding his arms high and was shot. The other people in the whare, fearing the same, did not attempt to come out - and were torched to death. [292]

There are some accounts by members of the Crown forces saying the whare karakia was set alight accidentally. However, there are multiple alternate accounts, including General Cameron, saying that the Whare Karakia was actively and deliberatively torched.

It is felt by historians that there was a large incentive for the official reports to downplay what actually took place, due to the fact the Rangiaowhia was undefended, and the population was supposed to have been safe. Some reported that 12 Māori were killed and 33 prisoners, including women and children, were taken.[293] Other accounts of the event say that over 100 were killed. The descendants of those who were killed by the colonial forces know the names update family members who were murdered in the village, and some of them adopted the names of those people to keep their memory alive. Those recollections and accounts have far more integrity than other reports which attempt to downplay the atrocity.

Rangiaowhia has become a source of enormous maemae over the years when it is remembered. Missionaries talked about encountering Māori 10 or 20 years later who, when they talked about Rangiaowhia, became hugely enraged about it because it was seen the people who were killed there weren't the victims of war, they were victims of Kohuru – Murder.[294] As Wiremu Kumete Te Whitiora told J. C. Firth and Charles Davis in 1869: "*here are your foul murders: - General Cameron told us to send our women and children to Rangiaowhia, where they should remain unmolested; but he went away from Pāterangi with his soldiers after them, and the women and children were killed and some of them burnt in the houses. You did not go to fight the men; you left them and went away to fight with the women and little children. These things you conceal because they are faults on your side, but anything on our side you set down against us and open your mouths wide to proclaim it. That deed of yours was a foul murder, and yet there is nobody to proclaim it*."[295]

Bishop Selwyn's role as Army chaplain was seen as a betrayal of his Māori 'flock'. Selwyn had reputation is a great humanitarian, a friend of Māori. The fact that he was so closely aligned to the invading force was seen as a betrayal and had long term effects on the history of Aotearoa that followed. Many Māori turned from the missionary's faith and either established their own version or returned to their indigenous roots.

The far-reaching effects of the attack on Rangiaowhia are many. If the massacre at Rangiriri had drawn the line in the sand, the atrocities committed at Rangiaowhia set it in stone.

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[292] https://nzetc.victoria.ac.nz/tm/scholarly/tei-Cow01NewZ-c37.html

[293] "150 years since attack on Rangiaowhia in the NZ Wars | Ministry for Culture and Heritage". www.mch.govt.nz.

[294] https://thespinoff.co.nz/atea/03-03-2021/this-one-was-personal-mihi-forbes-on-the-new-tainui-wars-documentary

[295] (AJHR, 1869, A-12, p. 12)

Māori now knew for certain how far the pākehā would go to win the war and take their lands. They understood that pākehā troops and government could not be trusted. They would not keep their word. This is borne out with the events that happened during the battle at Ōrākau and continues to through to this day.

The Kingitanga defence effort suffered a blow that it would never recover from, and the once flourishing Māori economy was devastated, and the survivors of the battle were made landless and impoverished overnight.[296]

The deaths and betrayal are still felt as keenly by Māori as they were after the attack. The decades of lack of acknowledgement by government and by the public in general has meant that the hurt continued to be perpetrated by not being addressed.

In more recent times there has been acknowledgment by the Crown and in September 2022, the Maniapoto Settlement (discussed in detail in this paper) was finally passed by Parliament and, as noted Kaumātua and historian Tom Roa said at the time of settlement, "we now have the opportunity…we now have our future in our own hands."[297]

The general public awareness continues to be raised with events like the 150th anniversary in 2014 and, more recently, a memorial placed at the site where it is believed the houses were burned. The whenua itself, where the village was located, once in pākehā hands, was gifted back to Ngati Apakura who, with the cooperation of a local farmer and the Waipa district council, fenced and replanted the area. Included in the plants and trees is a peach tree that was planted to represent the prosperity of that time and the fruit from the tree will represent the hopes and aspirations of Ngati Apakura for a productive future through a process of reconciliation with the Crown.[298]

The vast majority of land surrounding the village, however, has not been returned and by the end of the illicit war perpetrated against Tainui in the Waikato they had lost more than 1.6 million hectares of land.

What was once the agricultural food bowl of the Waikato, which feed and sustained colonial settlers who would not have survived without that generosity, has become the production centre for the dairy industry, and following the confiscation of Māori land it became the exemplar of colonial rule and development within the dairy sector.

As such, it fulfilled the threat made by Governor Grey in his second term of office, when he advised Kingitanga that he would flood their lands with his animal stock, which would *eat all of their food and drink all of their water.*

Just as the massacre of innocent women and children in the village of Rangiaowhia has been described as "inglorious", so too should the development of the dairy industry, which

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[296] Inglorious Dastards: Rangiaowhia raid and the 'great war for New Zealand'". NZ Listener. Retrieved 6 March 2021.

[297] Crown and Ngāti Maniapoto reach $177m settlement Radio New Zealand 4'05" Checkpoint (22 Sep 2022)

[298] https://www.nzherald.co.nz/te-awamutu-courier/news/apakura-memorial-kohatu-tells-story-of-rangiaowhia/YM2PM33AQVW5VBP7DSRNBPX5PY/

spread across confiscated land, displacing and devastating innocent whanau and hapu within that region, be described in a similar manner.

It is clear that the Tikanga-based agriculture and primary production model developed by Māori in the Rangiaowhia region was far superior to the industrial farming regime which emerged following the land confiscations. If that model had been adopted, and the integrity and manaakitanga shown by Tainui had been reciprocated, then the breaches we now see of five of the nine planetary boundaries derived of a profit motivated farming system, and the genocide witnessed within Māoridom, would not have eventuated.

As the primary production sector struggles to cope with its own challenges derived from its exploitative land use model, it is clear that a return to the te Ao Māori Principles and practises which created a thriving community [Pakeha and Māori alike] in the Waikato, would alleviate those challenges. However, this would require considerable and additional benevolence on behalf of Māori, who would need to implement that traditional land use practise and all of the manaakitanga and well-being it provided, and then train non-indigenous land owners on how to adapt their current farm systems to one that is more sustainable and Mana enhancing.

Given the history of events, and how they played out in Rangiaowhia, questions would need to be asked around why the tangata whenua would show such munificence. Inter-generational trauma derived of genocide, forced poverty and landlessness has a long reach.

## Ngati Porou and the Tairawhiti /East Coast region.

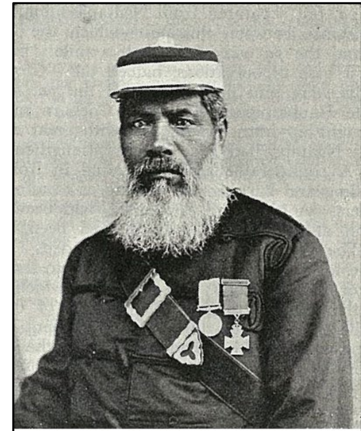
In assessing the potential viability of a te Ao Māori primary production model, an evaluation on the history of Ngati Porou, and on its current primary production, trading and branding model is invaluable. Unlike Tainui, Ngati Porou did not suffer land confiscation to the same extent as their whanaunga in the Waikato region.

Although land confiscation did occur, Ngati Porou were able to maintain control over significant contiguous or semi contiguous land blocks stretching right across the Tairawhiti region. They were not displaced and left landless like Tainui. Therefore, at the end of the Land Wars, this gave them an exceptional base on which to build an autonomous and mana motuhake based economy and land use strategy.

Ngati Porou is a Māori iwi located on the East Coast of New Zealand's North Island. The iwi has a rich history and a strong connection to the land and sea, which has been passed down through generations of whānau.

## Background

Historically, Ngati Porou has had a complex relationship with the New Zealand government, characterised by a mix of resistance and cooperation. In the 19th century, Ngati Porou leaders such as Ropata Wahawaha and Te Kani-a-Takirau worked with the government in battles against other Māori tribes.[299] However, they also resisted government attempts to confiscate Māori land and establish a native land court in their region.



Ropata Wahawaha[300]

Ngati Porou showed adaptability and innovation in the land use models they developed, and these were brought to bear in the trading relationships they established based on inter-tribal connections.

When Captain James Cook first landed in the region, he noted that Ngati Porou were still using small double hull canoes travelling up and down the coastline of the Tairawhiti region. As the tribe began adopting new agriculture and primary production systems and as their ability to escalate production evolved, traditional trading routes via sea were expanded.

Coastal trading Waka travel from the East Coast region up to the Coromandel, before then travelling on into the Hauraki gulf and the settler community in Auckland.

These coastal voyages were instrumental in transferring skill and knowledge on new agricultural systems across the whole length of the east Cape region. Knowledge was also passed between tribes such as Tainui and Ngati Whātua on trading systems and new processing technology such as flour mills, which further stimulated economic development and trading opportunities in the Tairawhiti region.

In the late 1800s and early 1900s, the New Zealand government campaigned to purchase Māori land for settlement by European immigrants. This led to the introduction of a series of land acts, including the Native Lands Acts 1862 and 1865,[301] which aimed to break up Māori communal ownership of land and encourage individual land ownership. The legislation was not effective in coercing Ngati Porou into ceding their lands, so the government began to use other tactics.

One of the tactics employed by the government was to legislation to withhold grants to Māori if they were deemed “rebels”[302]. Another well-known tactic was to use the threat of military force to coerce Māori communities into ceding their lands. This was used in the East

[299] https://teara.govt.nz/en/biographies/1w1/wahawaha-rapata

[300] https://commons.wikimedia.org/wiki/File:Major_ropata_wahawaha.jpg

[301] https://teara.govt.nz/en/te-ture-Māori-and-legislation/page-3

[302] O'malley, V. (1996). “Begging with a Bludgeon”: The East Coast Confiscations. Victoria University.

Coast region in the 1860s during the New Zealand Wars, when Ngati Porou and other Māori tribes fought against the British Crown in an effort to retain their land and autonomy.

The establishment of the native land court had a significant impact on Ngati Porou and other Māori communities. It led to the loss of a significant amount of Māori land and had a profound impact on Māori culture and identity.

### Revitalisation

In response, Ngati Porou leaders like Apirana Ngata and later Apirana Mahuika worked to revitalise Māori culture and economics. Ngata was instrumental in the establishment of the Māori Battalion during World War II and the promotion of Māori language and culture in schools, the economic development through the consolidation of Māori land and government funding and establishing the sheep, beef, and dairy industries in the Ngati Porou rohe.[303]

Mahuika was also a passionate advocate for the growth of Ngati Porou cultural and economic revitalisation through the preservation and promotion of Māori culture and intellectual property rights, geopolitical relations and economic development.[304]

In the 1980s, Ngati Porou took a significant step forward in its economic and cultural revitalization with the establishment of Te Rūnanga o Ngati Porou, a tribal governance body responsible for the economic, social, and cultural development of Ngati Porou. The Rūnanga has been successful in developing a range of economic ventures, including forestry, farming, and tourism.

In the following years, the Rūnanga has continued to prioritise cultural and economic development, including the establishment of a Māori language immersion school, the development of a cultural tourism program, and the promotion of sustainable environmental practices.

The recent environmental disaster that has hit the Tairawhiti rohe with Cyclone Gabrielle has devastated the land and its people and highlights the vital need to address the impacts of climate change on indigenous people that have had little part in creating the causes for the environmental impact they have suffered.

### Impacts of Colonisation

This section will go further in depth and examine the impacts of colonisation on Ngati Porou, the methods used by government to obtain land for settlers and government purposes, the resistance by Ngati Porou and their methods to blunt the governments initial push to obtain

[303] "Apirana Ngata" on the New Zealand History website: https://nzhistory.govt.nz/people/apirana-ngata

[304] https://waateanews.com/2015/02/09/ngati-porou-giant-apirana-mahuika-dies/

land, how the government eventually came to get that land and the response of Ngati Porou to rebuild their culture, environment, and economic aspirations.

In the 1850’s East Coast Māori had linked the alienation of lands with the loss of autonomy and made it clear that, having retained their estates virtually intact, they considered the Government had little authority to rule over them. When Governor Gore Browne visited Poverty Bay in 1860, he was bluntly informed that local Māori did not recognise Queen Victoria as their ruler and that previous Governors had been afraid to visit them.[305]

This isolationist ethos extended to the option to support the Kingitanga or not. In Turanga, Te Aitanga a Mahaki and Rongowhakaata maintained a staunchly non-partisan position and other Hapū decided to look after home affairs before supporting the Kingitanga Māori in the Waikato.

Within Ngati Porou, many were in support of the Kingitanga initially until the losses in battle in 1864, with some switching allegiance and others remaining quiet.[306] Ngati Kahungunu were much the same and no hapū were eager to bring military conflict into their rohe in the face of what was happening in the Waikato.

### East Coast Land War

Escalating conflict in the region ultimately lead to the East Coast Wars which were perceived as a victory for the government.[307] This perception led to the belief that the East Coast district was now open for colonisation. While the Māori remained in the majority, they were subjected to immense pressure to “open up” the region to prove their loyalty to the Crown. The discovery of oil in the district added fuel to the competition between the government and private interests for the best land.

The government had acquired 3,000,000 acres of land by 1866 but had incurred £3,000,000 of debt with it and the government did not have the reserves to cover it. Their attempt to sell confiscated whenua failed and the colony was in financial crisis.[308]

The Colonial Government’s relationship with the Imperial government was at rock bottom due to the colonial government’s decision to ignore the conditions put on the assent of the New Zealand Settlement Act. The primary condition was that confiscation of whenua should only be as a last resort if negotiations with Māori had failed, and that compensation should be given for any confiscated land. This was ignored completely and confiscation without

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[305] J.A. Mackay, Historic Poverty Bay and the East Coast, North Island, New Zealand, Gisborne: J.G. Mackay, 1966, p.212.)

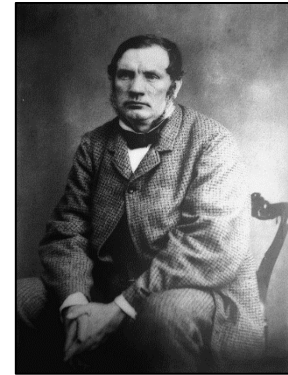
[306] New Zealand Parliamentary Debates, 24 August 1869, p.681.

[307] O'malley, V. (1996). “Begging with a Bludgeon”: The East Coast Confiscations. Victoria University.

[308] B.J. Dalton, War and Politics in New Zealand 1855-1870, Sydney: Sydney University Press, 1967, p.257.

negotiation occurred wholesale. This legislation which seemed on paper to be straightforward, in practice proved to be anything but.[309]

The edict given to Governor Grey by the Imperial government was that voluntary ceding of whenua should be the first option before any more extreme measures were taken, created a conundrum. How was the Colonial government going to persuade Māori to give up their land for nothing and how was it going to determine ownership of whenua by 'good' Māori and 'rebel' Māori?


Donald McLean[311]

In 1865, Hawke's Bay Superintendent Donald McLean, along with J.D. Ormond, campaigned to annex the East Coast, which failed after evidence surfaced that the supposedly spontaneous requests of East Coast Māori to reunite with their Heretaunga kin were instigated by the superintendent and contained numerous forged signatures.[310]

The arrival of Pai Marire representatives in the rohe in 1865 sparked the beginnings of the government's successful moves to confiscate lands in the East Coast. The Pai Marire faith, also known as Hauhau, was established in response to the Church's role in the land wars and mass confiscation of whenua Māori.

Kereopa Te Rau and Patara Raukatauri,[312] emissaries of the Pai Marire faith, arrived in Opotiki in February 1865 and seized Charles Volkner, an Anglican missionary who had also been reporting Māori troop movements to Governor Grey. Volkner was hanged for his role as a spy. Te Rau conducted a sermon from Volkner's pulpit thereafter, during which he swallowed Volkner's eyes, saying one represented the Queen and the other British law.[313]

Te Rau and Raukatauri travelled to Gisborne just weeks after the Volkner incident and gained much support in Turanga / Poverty Bay. Notable Ariki in Ngati Porou and Ngati Kahungunu such as Ropata Wahawaha, were extremely concerned that their arrival and support would mean military reprisal and loss of whenua through confiscation. As such they shifted their allegiance and supported the Crown in their efforts to stamp out the Hauhau movement.

[309] O'malley, V. (1996). "Begging with a Bludgeon": The East Coast Confiscations. Victoria University.

[310] `Report of the Committee on Public Petitions on the Petitions of the East Coast Natives, Praying that their District May be Annexed to the Province of Hawke's Bay', AJHR, 1866, F11A.

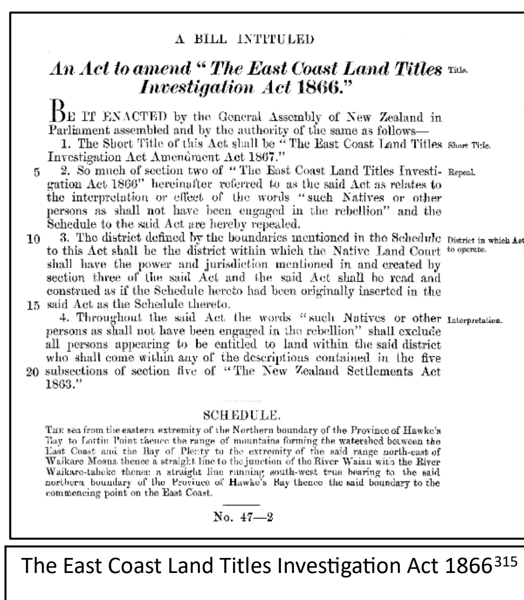
[311] By Photographer unidentified - http://find.natlib.govt.nz/primo_library/libweb/action/display.do?ct=display&doc=nlnz_tapuhi628106 , Public Domain, https://commons.wikimedia.org/w/index.php?curid=17855312

[312] Oliver, Steven (30 October 2012). "Te Rau, Kereopa". Dictionary of New Zealand Biography.

[313] Stokes, Evelyn (30 October 2012). "Völkner, Carl Sylvius". Dictionary of New Zealand Biography

## Oil

The discovery of oil in the district in 1866 led to competition between private interests and the government. Julius Vogel offered a royalty to the financially troubled Auckland Government on behalf of Dunedin and Melbourne interests,[314] but the Superintendent, Frederick Whitaker, sent an agent to acquire these reserves for the province.



A BILL INTITULED

*An Act to amend "The East Coast Land Titles Investigation Act 1866."*

Title.

BE IT ENACTED by the General Assembly of New Zealand in Parliament assembled and by the authority of the same as follows—

Short Title. 1. The Short Title of this Act shall be "The East Coast Land Titles Investigation Act Amendment Act 1867."

Repeal. 2. So much of section two of "The East Coast Land Titles Investigation Act 1866" hereinafter referred to as the said Act as relates to the interpretation or effect of the words "such Natives or other persons as shall not have been engaged in the rebellion" and the Schedule to the said Act are hereby repealed.

District in which Act to operate. 3. The district defined by the boundaries mentioned in the Schedule to this Act shall be the district within which the Native Land Court shall have the power and jurisdiction mentioned in and created by section three of the said Act and the said Act shall be read and construed as if the Schedule hereto had been originally inserted in the said Act as the Schedule thereto.

Interpretation. 4. Throughout the said Act the words "such Natives or other persons as shall not have been engaged in the rebellion" shall exclude all persons appearing to be entitled to land within the said district who shall come within any of the descriptions contained in the five subsections of section five of "The New Zealand Settlements Act 1863."

SCHEDULE.

THE sea from the eastern extremity of the Northern boundary of the Province of Hawke's Bay to Lottin Point thence the range of mountains forming the watershed between the East Coast and the Bay of Plenty to the extremity of the said range north-east of Waikare Moana thence a straight line to the junction of the River Waiau with the River Waikare-taheke thence a straight line running south-west true bearing to the said northern boundary of the Province of Hawke's Bay thence the said boundary to the commencing point on the East Coast.

No. 47—2

The East Coast Land Titles Investigation Act 1866[315]

The Brown and Campbell Company also attempted to obtain the lands, leading to opposition. Whitaker convinced the government to include a clause in the 1866 Native Land Act allowing provincial governments to make valid purchases of Māori land before any adjudication by the Native Land Court.

He also had a major input into the provisions of the East Coast Land Titles Investigation Act, which ensured that any sitting of the Court would not deprive the government of lands potentially liable to confiscation by obliging it to confiscate the interests of those who had engaged in "rebellion" against the Crown.

In September 1866, Brown and Campbell sought to have the oil spring lands adjudicated upon,[316] but Chief Judge Fenton did not grant this, there appeared to be a relationship between Fenton and the lawyer for Brown and Campbel that influenced this decision.[317] The East Coast Land Titles Investigation Act enabled the Native Land Court to inquire into and determine Titles to Land in the East Coast District, not only to determine customary entitlement to particular lands but also to determine whether those who might otherwise have been entitled to the lands had rendered themselves ineligible to receive Crown grants if they had taken place all supported so-called rebellion.[302]

The "mild sort of confiscation", as described by James Richmond, the minister of native affairs in all but name,[318] proved to be unworkable in practice. This was partly due to a clerical error in the Act that included "rebels" in the Court's awards instead of them. More importantly, East Coast Māori refused to provide the Court with information on their customary ownership of lands, and the lands that the Crown might obtain through the

[314] O'Malley, V. (1996). "Begging with a Bludgeon": The East Coast Confiscations. Victoria University.

[315] Image from http://www.nzlii.org/

[316] J.C. Richmond to Fenton, 8 September 1866, MA 62/8, Raupatu Document Bank, vol.131, p.50411.

[317] J. Mackelvie to W. Brown, 17 July 1866, Mackelvie Papers, letterbook 1865-68, NZ MS 199, Auckland Public Library.

[318] https://teara.govt.nz/en/biographies/1r10/richmond-james-crowe

Court's decisions were not necessarily suitable for settlement or oil springs. As a result, the Government used the Act to induce East Coast Māori to make "voluntary cessions" of land to the Crown instead of claiming it under the legislation.[319]

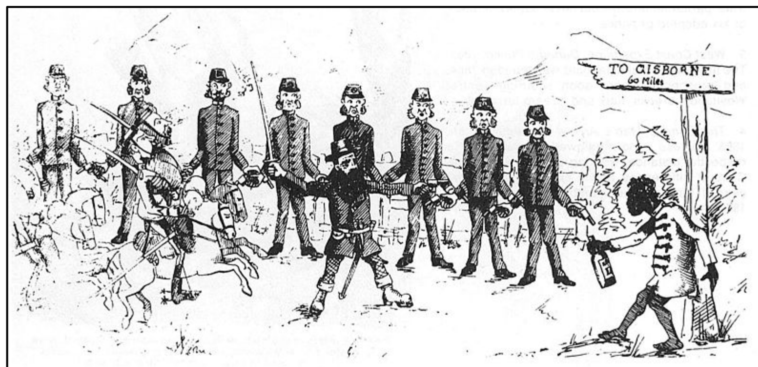
### Te Kooti Arikirangi Te Tūruki

It was the siege of the Hauhau-occupied Waerenga-a-hika Pā that opened the door fully to the loss of land in the East Cape and Tairawhiti regions. Te Kooti Arikirangi Te Tūruki was fighting with the "Loyalist" Māori and was accused of being a spy and firing on the Pā with blank shot. Having made a reputation for being a firebrand as well as highly intelligent, Te Kooti was exiled to the Chatham Islands along with the other "rebel" Māori that were defeated in the initiative to stamp out the Hauhau in Tairawhiti.

During his incarceration, Te Kooti had visions that inspired him to form the Ringatū faith and two years later, Te Kooti engineered a daring escape, subduing his captors and hijacking a vessel to sail back to the mainland with 163 men, 64 women and 71 children, all of whom had been exiled as "rebels" and had become his followers.[320]

Upon learning of Te Kooti's return, Reginald Biggs, the local magistrate, sent a demand for the release of their weapons which was refused. Te Kooti had no intention to fight the government, but the magistrate decided that he had to be stopped.

Te Kooti would achieve many victories against government troops gaining great notoriety and respect amongst government and Māori alike. When he was refused entry to the Waikato by Tawhiao, having no place to reside, he returned to Gisborne where attacked Turanga, gaining control of it in November 1868.[322]



"Te kootis little spree" – A colonial cartoon depiction of Te Kooti 1889[321]

Here began the first large scale acquiring of whenua Māori in the Ngati Porou rohe. Using the reasoning that the hapū in Turanga were requesting pākehā armed forces to help defend the rohe, James Richmond, effectively minister for native affairs for the Stafford government,

[319] New Zealand Parliamentary Debates, 3 September 1868, p.158.

[320] Binney, J. (1996). Redemption Songs A life of Te Kooti Arikirangi Te Tūruki (p. 84). Auckland University Press Bridget Williams Books.

[321] https://commons.wikimedia.org/wiki/File:1889-ep-te-kootis-little-spree.jpg

[322] https://teara.govt.nz/en/biographies/1t45/te-kooti-arikirangi-te-turuki

proposed to Ngati Porou and the government that whenua should be ceded by them to cover the cost of the government troops they were seeking.[323]

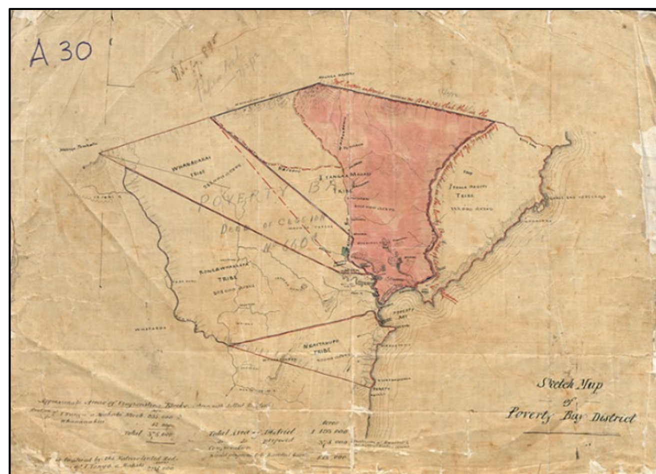
The deal was struck on the 18th of December 1868 and the entire poverty bay district was handed over, nearly half a million acres of whenua, subject to the return of areas that might be deemed belonging to 'loyalist' Māori. However, there were many discrepancies concerning the boundaries of the blocks to be given up, and the surveyor surreptitiously included 20,000 acres in the subsequent survey of the blocks.[324] The half a million acres was reduced to 56,000 acres by June of 1869.

## Land Claims and Legislation

In early 1868, more than a thousand Māori from all along the East Coast signed petitions calling for the repeal of the East Coast Land Titles Investigation Act. They complained that the Government was constantly trying to persuade them to give up their land without any recompense.[325]

They had set about leasing their lands to Europeans, and only when they refused to sell to the Government did it seek to suppress the hearings of their claims before the Native Land Court. Richmond introduced a new Bill that allowed the Court to award the whole of lands owned jointly by "rebels" to the Crown or "loyalists", but this stood little chance of success.

Moreover, the Commission validated a number of illegal old land claims completed after the imposition of Crown pre-emption in 1840. In 1870, the Native Land Court briefly sat to determine native title to what had been declared Crown lands by Gazette notice in February 1869 when the return of the remaining lands was not completed.



Confiscation plans, Poverty Bay circa 1870[326]

Repeated but unsuccessful efforts were made to obtain similar cessions of land from Ngati Porou, and in 1875 more than 172,000 acres of land was practically confiscated from Waikaremoana Māori, who were badgered into withdrawing their claims to the blocks in question under threat of confiscation in return for a nominal payment and a few small reserves.

[323] New Zealand Parliamentary Debates, 24 August 1869, p.681.

[324] S. Locke to McLean, [?] August 1873, McLean Papers (f.394), Alexander Turnbull Library.

[325] AJHR, 1868, A-16, p.6.

[326] https://teara.govt.nz/en/zoomify/33392/confiscation-plans-poverty-bay-around-1870

Thus, the total area of land effectively confiscated on the East Coast was more than 280,000 acres[30204].

Many Māori living there today can point out the exact boundaries of the Raupatu blocks and note with more than a touch of bitterness that some of the most prestigious chardonnays in the world are produced on confiscated land.

The establishment of the Native Land Court by the Crown in the 1860s transformed Ngati Porou land tenure. The court awarded land titles on an individual basis, which made it easier for the Crown to purchase Ngati Porou land that was deemed unused or unoccupied. This individualisation of land tenure caused fragmentation of Ngati Porou land ownership, which made it difficult for the tribe to benefit from the modern economy.

Additionally, the development schemes were administered by the Crown, which deprived Ngati Porou of control of large quantities of their own land for many decades. Crown policies were not successful in effectively resolving the problem of land fragmentation and erosion, and as a result, Ngati Porou did not receive the beneficial outcomes they were led to expect.[327]

The Crown also took administrative control of East Coast rivers, including the Waiapu,[328] which is significant to Ngati Porou identity. The tribe's land has suffered devastating erosion, which has been exacerbated by deforestation for farming since European settlement began.

Despite these challenges, many Ngati Porou have served in the New Zealand armed forces, including during World War II, which resulted in significant sacrifice and loss of leadership for the tribe. This also generated additional inequality by way of the Soldiers' Settlement Scheme, which allowed them to take over Māori land that had been confiscated by the Crown. In contrast, Ngati Porou veterans were denied access to land through the same scheme and were not compensated for their service in the same way as Pākehā veterans.

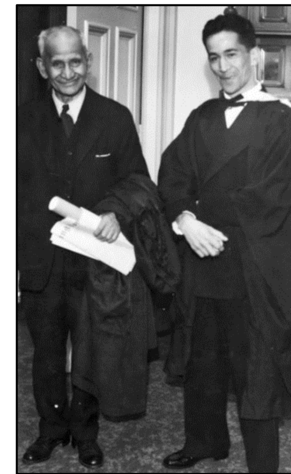
### Apirana Ngata

Sir Apirana Ngata was a prominent Māori statesman, politician, and lawyer from New Zealand, who was of Ngati Porou and Ngati Kahungunu descent. He played a significant role in the cultural and economic development of Ngati Porou and other Māori communities and was a key figure in the formation of the Ngati Porou Māori Battalion.

Ngata was a strong advocate for the preservation and revival of Māori culture and language. He believed that the key to the survival and prosperity of Māori people lay in the preservation and promotion of their culture and language. He helped to establish the Māori Purposes Fund, which supported Māori cultural and educational initiatives, including the

[327] Ngati Porou Claims Settlement Act 2012 p6
[328] Ngati Porou Claims Settlement Act 2012 p15

establishment of schools that taught in the Māori language. He also encouraged the writing and publishing of books in Māori.



Sir Apirana Ngata and his son, Henare Ngata[330]

Ngata was also instrumental in the economic development of Ngati Porou and other Māori communities. He helped to establish the Māori Land Development Board, which provided loans to Māori landowners to develop their land for agriculture and other industries. He also encouraged the establishment of cooperatives, which enabled Māori communities to pool their resources and work together to develop their land and businesses.[329]

Many have attributed his success as being mostly due to his experience of farming on the East Coast and his knowledge of European law.

In the 1900s, Apirana Ngata focused heavily on sheep farming on the East Coast, taking over Ahikōuka station and managing three other stations. Successful sheep farms had been run in Ngati Porou in the late 19th century and, as the industry grew, it was identified that new, more efficient methods would need to be developed.

In 1912 the Waiapu Farmers Trading Co-operative was launched,[331] the shareholders being from leading Ngati Porou whanau. The aim was for Ngati Porou farming to be more efficient and self-reliant, providing both equipment and to act as a source of credit for Ngati Porou farmers. This reduced the dependence of Ngati Porou farming on outside suppliers or sources of funding, and profits were to go back into the local hapū.

In the early 1900s, the Union of Ngati Porou Farmers was established, and Ngata used this as an opportunity to teach Ngati Porou modern farming practices such as fencing, stock rotation and grass sowing. Ngata's close friend Samuel Williams, the founder of Te Aute College, provided financial support to Ngati Porou farmers. Ngata led the transformation of sheep farming in the Waiapu valley, resulting in a significant increase in sheep numbers from 52,786 in 1900 to 132,356 in 1909, and an estimated 500,000 by 1927.[332]

The Māori Farmer of the Year awards were commissioned by Ngata in 1932.333 The winner of the awards received the Ahuwhenua Trophy. The difference in judging dairying and sheep farming became apparent, and a separate category and trophy for sheep farming was created in 1954.[334]

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[329] https://nzhistory.govt.nz/people/apirana-turupa-ngata

[330] https://commons.wikimedia.org/wiki/File:Sir_Apirana_Ngata_and_his_son_Henare_Ngata.jpg

[331] https://teara.govt.nz/en/biographies/3n5/ngata-apirana-turupa

[332] https://teara.govt.nz/en/ahuwhenua-Māori-land-and-agriculture/page-4

[333] https://www.ahuwhenuatrophy.Māori.nz/about/history

[334] ibid

### Ngati Porou Dairy Industry

Ngata began the transition of East Coast farming into dairy farming in 1923.335 Uptake was initially slow as Ngati Porou had been sheep farming for over 30 years. Finance was secured from the Native Trustee and a dairy factory, milking sheds, and cows were purchased, and the Ngati Porou Dairy Company was formed in 1925.

The Ruatōria factory produced around 60 tonnes of butter in 1925/26 and almost 460 tonnes in 1931/32. However, it did not thrive after the Second World War, Dairy cows in milk fell from 20,000 in 1951/52 to 14,000 in 1959/60. Combined with a lack of state investment into infrastructure in the East Coast, in particular roading,336 created supply chain issues that could not be recovered, and the factory closed in 1954.[337]

By the 1990s, the East Coast had become one of the most socio-economically deprived regions in New Zealand.

Despite this, Ngati Porou have also been successful in developing their resources and creating positive economic outcomes for their whenua and their people.

### Cultural and Economic Recovery

The establishment of Te Runanga o Ngati Porou in 1985 signalled the beginnings of a cultural and economic shift for Ngati Porou.[338]

In 1988, Pakihiroa Farms was purchased and established as a turangawaewae for all Ngati Porou. Pakihiroa Farms has developed and has been key to the economic portfolio for Ngati Porou since that time. Having a combined area of 2770 hectares and approximately 25,000 stock units, the farm employs farm advisors, shepherds, farm managers, fencers and farm consultants.[339]

The company exported beef and lamb to Europe, East Asia, Canada and the USA and is an integral part of the internationally renowned First Light Farms Wagyu beef initiative.

In 1995, Ngati Porou Hauora was established and is a primary health organisation. Its portfolio consists of the only Māori owned and operated hospital in the country / world, a health centre, a family and child service, an elderly care service, a natural healing initiative and a health research initiative.

[335] https://teara.govt.nz/en/ahuwhenua-Māori-land-and-agriculture/page-4

[336] https://ngatiporou.com/nati-story/our-korero/whairawa-economy

[337] https://teara.govt.nz/en/east-coast-region/page-9

[338] https://ngatiporou.com/nati-biz/who-we-are/our-story

[339] https://ngatiporou.com/nati-biz/our-businesses-services/pakihiroa-farms

Ngati Porou hauora plays a critical role, not only in healthcare, but also economically, bringing approximately $5.5 million into the GDP through local employment and funding contracts.[340]

Ngati Porou Seafoods was established in 2002 and administers the 5,500 tonnes of fishing quota for Ngati Porou and the shares in Aotearoa Fisheries Ltd. Ngati Porou service the local market with freshly caught fish and has shown great innovation again with the development of Ahia – Premium smoked white fish. Ahia won the Outstanding New Zealand Food Producer Gold award in 2020 and has developed a premium brand in the international market.[341]

In 2012 the Ngati Porou Claims Settlement Act was passed and Te Runanganui o Ngati Porou replaces the previous rōpū and the Ngati Porou Holdings Company was established as the commercial arm of the Iwi with commercial operations and investments in forestry, farming, seafood, property, and tourism. The company also focuses on promoting social and economic development and protecting the cultural and environmental heritage of Ngati Porou.

In 2013, Ngati Porou established Toitu Ngati Porou as a development organisation. Its main goal is to promote the social, economic, and cultural development of Ngati Porou and its people. The organisation's aims are to achieve this goal by providing a range of services and support to Ngati Porou individuals and communities, including education and training programs, health services, housing support, and economic development initiatives.[342]

Toitu Ngati Porou has achieved a number of important outcomes for Ngati Porou, including the creation of jobs and economic opportunities, the provision of high-quality health and social services, and the promotion of Ngati Porou culture and language. The organization has also played an important role in the development of Ngati Porou natural resources, including its forestry and fishing industries.

In 2014, Ngati Porou sign the Crown-Ngati Porou Relationship Accord as part of the Ngati Porou Treaty of Waitangi settlement. The purpose of the Accord was to improve outcomes from government investment for Ngati Porou and develop and strengthen Ngati Porou-Crown relationships.

Its purpose is to recognise and settle historical grievances of the Ngati Porou people and provide a redress package that includes financial and non-financial compensation, the transfer of Crown-owned land to Ngati Porou, and cultural and historical acknowledgments.

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[340] Ngāti Porou Hauora The wider economic benefits of providing health services by Fiona Stokes, Hugh Dixon and Dr Ganesh Nana pg 4 May 2015

[341] https://ngatiporou.com/nati-biz/our-businesses-services/ngati-porou-seafoods-group

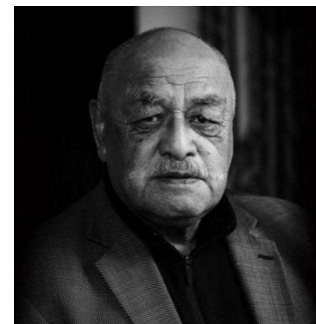
[342] https://ngatiporou.com/article/toitu-te-tangata-toitu-ngati-porou

The act acknowledged that the Crown breached the Treaty of Waitangi and its principles, resulting in the loss of Ngati Porou land, culture, and identity. It aimed to address these injustices and provide a path for reconciliation between the Crown and Ngati Porou.

The act established a settlement trust to receive and manage the redress package and provides for the transfer of Crown-owned land to the trust for the benefit of Ngati Porou. The act also provided for the recognition and protection of Ngati Porou cultural heritage, and the establishment of a framework for the management of natural resources within Ngati Porou rohe (territory).[343]

## Apirana Mahuika

Apirana Mahuika (1932-2015) was a prominent Māori leader and cultural expert from Ngati Porou and was a key figure in the process of establishment of Te Runanga o Ngati Porou. He was widely regarded as one of the most respected and knowledgeable Māori leaders of his generation and played a key role in the revival and preservation of Māori language and culture, Māori intellectual property rights, Māori geopolitics and economics.[344]



Apirana Ngata

Mahuika became a prominent leader within Ngati Porou, serving as a member of the iwi's tribal council for many years. He was also a key figure in the establishment of the Māori Language Commission and was involved in numerous other organizations dedicated to the promotion and preservation of Māori language and culture.

Throughout his life, Mahuika was deeply committed to the principles of tino rangatiratanga, or Māori self-determination, and worked tirelessly to promote Māori rights and interests. He was also a strong advocate for the recognition and protection of Māori intellectual property rights, particularly in relation to traditional knowledge and cultural heritage.

Mahuika was a member of the Ngati Porou tribal council for many years, and was highly regarded for his wisdom, knowledge, and leadership skills. He was known for his commitment to promoting the interests and well-being of Ngati Porou and other Māori communities.

He was a passionate advocate for the revitalization and preservation of Māori language and culture. He was a key figure in the establishment of the Māori Language Commission and was involved in numerous other organizations dedicated to the promotion and protection of Māori language and culture.

[343] Ngati Porou Claims Settlement Act 2012

[344] https://ngatiporou.com/article/he-maumaharatanga-dr-apirana-mahuika

He was a staunch advocate for the recognition and implementation of the Treaty of Waitangi, the founding document of New Zealand that was signed between Māori chiefs and the British Crown in 1840. He believed that the Treaty provided a framework for Māori self-determination and the protection of Māori rights and interests.

He was a strong advocate for the recognition and protection of Māori intellectual property rights,[345] particularly in relation to traditional knowledge and cultural heritage. He believed that Māori communities should have greater control over the use and dissemination of their traditional knowledge and cultural artifacts.

Mahuika was a key figure in the development of the Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples, which was adopted in 1993 by a gathering of indigenous leaders in New Zealand. The declaration asserts the right of indigenous peoples to control and benefit from their cultural and intellectual heritage and calls on governments to recognize and protect these rights.

Mahuika also played a leading role in the establishment of the Ngati Porou Māori Trust Board, which was responsible for managing Ngati Porou assets and resources, including its cultural and intellectual property. The Trust Board worked to develop policies and strategies for the protection and management of Ngati Porou intellectual property, and to ensure that the benefits of this property flowed back to the community.

Through his involvement in various political and cultural organizations, Apirana Mahuika built crucial relationships with the New Zealand government, advocating for Māori rights and interests. Mahuika served on a number of boards in his time including being the Chairman of Iwi Leadership Forum - Climate Change (Ministry of Environment), Advisor on the Kaunihera Board (Māori Television), Council Member of Waikato University, Board Member NZ Geographical Board Member of Te Kawai Taumata (Te Ohu Kaimoana), Member of Iwi Leadership Forum (Ministry of Fisheries), Member of the Commissioner's Māori Focus Forum (NZ Police) and as Chief Negotiator for Foreshore and Seabed

Mahuika also played a vital role in negotiating the Ngati Porou Treaty Settlement in the 1990s, which involved the transfer of significant land and financial resources to Ngati Porou, as well as the recognition of their historical grievances and a formal apology from the government. He recognized the importance of having Ngati Porou people in positions of power and influence within the bureaucracy and advocated for their appointment to key positions within government agencies and departments.

Mahuika ensured that Ngati Porou people were represented on government advisory committees and boards such as the Māori Language Commission and the Waitangi Tribunal, providing them with a voice in decision-making processes that affected their interests and well-being. Overall, Mahuika's efforts were instrumental in the development of Ngati Porou political and economic influence and in improving government-Māori relations in New Zealand.

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[345] CCPR/C/70/D/547/1993 16 November 2000

Apirana Mahuika passed away in 2015 at the age of 83, leaving behind a lasting legacy as a champion of Māori language and culture, and a tireless advocate for Māori rights and self-determination.

### The Ngati Porou Mana Motuhake Model

In contemporary times, and following the leadership established by Mahuika co-governance and project management structures and models have been developed by Ngati Porou with regional council, industry partners research organisations, investors, and Crown institutes to further enhance and actualise their autonomy and tino rangatiratanga – a mana motuhake model.

This model is whakapapa based and it has SECE metrics that underpin the delivery and monitoring of the models impact and effectiveness. It has, at its core, a mana tiaki ethos. Critically important to that model is the restoration of the mana and the mauri of all things natural within the whenua and sea. Mana whenua / mana tangata.

Ngati Porou have a well-established traditional and cultural identity with a strong hapū network across their rohe. They have a history of being integral in the design of Māori incorporations and the first adopters of this model and were among the first hapū to receive the first tranche of investment into Māori economic development during Ngata's time.

Api Mahuika was a focused and capable leader.

He saw to the education of rangatahi and their placement into key positions in government bureaucratic positions to facilitate the channelling of influence and resources into the Tairawhiti rohe and developed a direct relationship with the systems government.

The rohe of Ngati Porou is a valuable case study on how to establish cultural autonomy within primary production – a Te Ao Māori primary production model. They continue to maintain a strong hapū network and good leadership, and a proven track record in primary production, including innovation using modern technology without the loss of cultural identity. They have significant geo-political influence and a recognised strong relationship with government and people inside the bureaucracy.

However – despite all the best planning, the region and Ngati Porou now face significant new challenges.

### Tairawhiti Climate Change Impacts

Over the past five years, climate change has ominously impacted on the region and on primary production. This has drastically changed thinking around how farm management systems should be redesigned, focusing in particular on the top of the catchments where

massive erosion can occur which completely changes the landscapes of fertile and productive land in the river flats below.

A rethink is also underway in terms of infrastructure development and where to place roads and bridges. These events have highlighted the need to shorten supply chains and reduce reliance on external inputs because during flood events, and in some cases for long periods of time thereafter, infrastructure impacted by climate change is unable to service the needs of the local farming communities.

A recalibration and re-evaluation of the value of historical and traditional land use practises is emerging. Old models that focused first and foremost on provisioning local families now align strongly with food sovereignty discussions and evaluations of circular bio economies. These were all part and parcel of community based and Marae centric land use practises before industrial farming and commodification began impacting within the region. The pathway forward for Māori is always defined by the footsteps to the Tupuna.

In the climate change space, The Government's current focus on mitigation has been developed so that it can meet its international ETS obligations without addressing the needs of the environment and peoples most affected by climate change. This approach will not deliver a just transition for Māori.

Had the focus been on adaption and included Mātauranga Māori, with 100s of years of traditional knowledge, research could have begun early [and with more efficiency] on adaptation for the Tairawhiti rohe and its people, which have had little chance and no external resources to prepare for the devastation they have endured.

Restoration and adaptation models must be developed with Mātauranga Māori derived from natural ecosystems and these must be catchment specific.

Adaptation planning must be Rangatira directed to be effective, with [in the case of Ngati Porou] the Rangatira being Mt Hikurangi.

Hikurangi has the mana and the geographical locality and sufficient size to influence the messages, frequency, intensity and resources provided by key Atua, which can inform climate change adaptation – in particular; Tāwhirimātea and Tangaroa.

He is geographically positioned as a powerhouse at the end of the Raukūmara ranges before its descent to the East and into the Moana.

In a pre-colonial and pre-modified environment, (before profit, policy and pests inundated the region) icon indicators used to predict climate change were found in a range of precise strata from the top of the Maunga to the riverbeds, and messages on climate variation have been carved in the rock faces of the Ranges.

The nuances of micro-climatic change and impacts are found in the location aspect of the Maunga, influenced and carved by Ngā Hau e Whā. Intergenerational observation and the development of traditional knowledge born of experience and use practice has generated invaluable Mōhiotanga which informs leadership thinking and adaptation planning for

cyclone restoration. This must be equitably funded. It sets in place the principle of Rangatira-directed research and recovery within an ever changing and challenging climate.

Just as the Whanganui awa and Te Urewera have personhood status, so too does the Raukūmara, with all its chiefs and sub chiefs. It is those Rangatira / tupuna who are the change agents and who direct the research and restoration kaupapa needed for people to be able to thrive in challenging times – working with and through Tohunga.

It can therefore be seen that Ngati Porou have, over the last 180 years, carefully and deliberately structured a colonisation resistant land use model which enhances cultural as well as socio economic well-being based on clear mana motuhake and mana tiaki principles.

Whilst the level of confiscation they suffered was far less than Tainui Waikato, colonisation has nonetheless had a significant impact in terms of the loss of sacred whenua and areas of very high productivity, especially on farmland surrounding Gisborne itself.

Despite the success of their Treaty settlement and the economic development programmes they have initiated, they, like so many other Iwi organisations are still controlled and constrained by dominant culture policies and procedures which continue to attempt to undermine their self-determination and cultural identity.

However, in assessing where Ngati Porou currently sits and in looking at the land utilisation model they have developed [which includes climate crisis adaptation] it is clear that a te Ao Māori primary production model is not only viable, but also essential, given the economic, social and climate change headwinds being faced by Ngati Porou, and indeed all land users in the primary production sector.

## Decline Of Māori Agriculture and Primary Production

To understand how the Māori agriculture and primary production declined so rapidly from the heights of the "Golden Years" to a situation of poverty and deprivation it is necessary to examine the effects of colonisation, the attitude of the coloniser and the lengths by which they went to get the resources they wanted and maintain cultural dominance once they reached population and political ascendancy.

This section of the paper looks at the effects on the Māori economy post the signing of the Treaty, how policies of assimilation such as land consolidation and the Public Works Act to name but one of many Acts] were used in the guise of taking land for the "public good" and yet targeted whenua Māori specifically.

It looks at how the loss of land and imported disease decimated the Māori population beginning in the 1800's, and the effects of the loss of land via confiscations impacted Māori going forward. Later, it looks at how land consolidation, lack of financial support and infrastructure scuppered Māori economic recovery from the 1930s an onwards. and how

the industrialisation of the New Zealand economy [and agriculture] affected Māori not only financially, but culturally as well.

## Signing of the Treaty and Economic Effects.

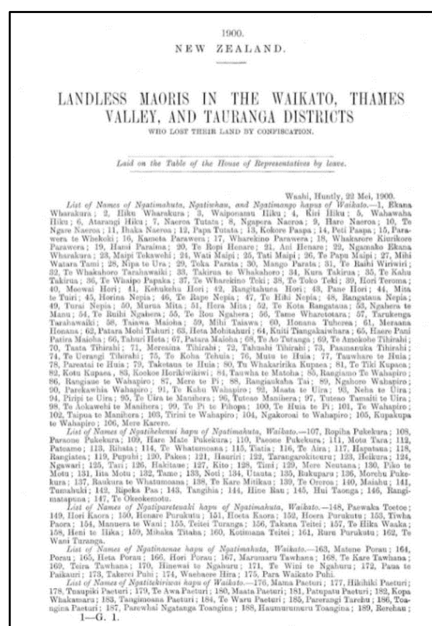
The economic effects of signing the treaty were not as beneficial to Māori as they may have hoped. With the introduction of new customs duties on goods in the 1840 period Māori were heavily impacted and many traders shifted their trade to duty free markets elsewhere in the world.[346]

From the initial period of growth in the north in the early 1800's Ngā Puhi suffered a downturn in economic benefit when the capital was shifted to Auckland in 1840 dropping by 50%. The shift to Auckland was as a result of negotiation between the Crown and Ngāti Whātua. Ngāti Whātua saw an opportunity for not only economic gain but also in increase in security against attack from Ngāpuhi.[347]

Whilst there was a financial gain with the shift of the capital, it was short lived as, almost immediately, the result of annexation shifted the market focus from lucrative foreign export to domestic supply due to the influx of settlers. By this stage Māori had also been critically aware of the value of the goods they were producing and value of their labour and were adjusting the cost accordingly.[348]

Māori were cognisant of the shift in market forces and adjusted their agricultural model from the standard pork, potatoes, flax and whale oil. They diversified into other food staples such as maize, melons, pumpkins and other vegetable crops. However, this was too short lived as the events of the New Zealand land wars proceeded to decimate the Māori, their daily lives and their resources. The impact of the war was most devastating for Tainui, not just in the short term, but to today.

This can be seen in the socio-economic statistics for Māori communities throughout the Waikato region. In 1900, the government published an official return of



1900.
NEW ZEALAND.

LANDLESS MAORIS IN THE WAIKATO, THAMES VALLEY, AND TAURANGA DISTRICTS
WHO LOST THEIR LAND BY CONFISCATION.

*Laid on the Table of the House of Representatives by leave.*

Waahi, Huntly, 22 Mei, 1900.

*List of Names of Ngatimahuta, Ngatiwhau, and Ngatimango hapus of Waikato.*—1, Ekana Wharakura; 2, Hiku Wharakura; 3, Waiponamu Hiku; 4, Kiri Hiku; 5, Wahawaha Hiku; 6, Atarangi Hiku; 7, Naeroa Tutata; 8, Ngapera Naeroa; 9, Haro Naeroa; 10, Te Ngare Naeroa; 11, Ihaka Naeroa; 12, Papa Tutata; 13, Kokore Paapa; 14, Peti Paapa; 15, Parawera te Whekoki; 16, Kameta Parawera; 17, Wharekino Parawera; 18, Whakarore Kiurikore Parawera; 19, Hami Paraima; 20, Te Ropi Henare; 21, Ani Henare; 22, Ngamako Ekana Wharakura; 23, Maipi Tekawehi; 24, Wati Maipi; 25, Tati Maipi; 26, Te Papu Maipi; 27, Mihi Watara Tami; 28, Nipa te Ura; 29, Toka Parata; 30, Mango Parata; 31, Te Raihi Wiriwiri; 32, Te Whakahoro Tarahawaiki; 33, Takirua te Whakahoro; 34, Kura Takirua; 35, Te Kahu Takirua; 36, Te Whaipo Papaka; 37, Te Wharekino Teki; 38, Te Toko Teki; 39, Hori Teroma; 40, Moewai Hori; 41, Kehukehu Hori; 42, Rangitahuna Hori; 43, Pane Hori; 44, Mita te Tuiri; 45, Horina Nepia; 46, Te Rape Nepia; 47, Te Hihi Nepia; 48, Rangataua Nepia; 49, Turai Nepia; 50, Murua Mita; 51, Hera Mita; 52, Te Kota Rangataua; 53, Ngahera te Manu; 54, Te Ruihi Ngahera; 55, Te Rou Ngahera; 56, Tame Wharetotara; 57, Tarukenga Tarahawaiki; 58, Taiawa Maioha; 59, Mihi Taiawa; 60, Honana Tuhorea; 61, Meraana Honana; 62, Patara Mohi Tahuri; 63, Heta Mohitahuri; 64, Kuiti Tiangakaiwhara; 65, Haere Pani Patira Maioha; 66, Tahuri Heta; 67, Patara Maioha; 68, Te Ao Tutanga; 69, Te Amokohe Tihirahi; 70, Taata Tihirahi; 71, Mereaina Tihirahi; 72, Tahuahi Tihirahi; 73, Paamanuka Tihirahi; 74, Te Uerangi Tihirahi; 75, Te Koha Tehuia; 76, Mutu te Huia; 77, Tauwhare te Huia; 78, Pareatai te Huia; 79, Taketaua te Huia; 80, Tu Whakaririka Kupaea; 81, Te Tiki Kupaea; 82, Kotu Kupaea, 83, Kookoe Horikiwikiwi; 84, Tauwha te Matoha; 85, Rangiamo Te Wahapiro; 86, Rangiaue te Wahapiro; 87, Mere te Pi; 88, Rangiaukaha Tai; 89, Ngahoro Wahapiro; 90, Parekawhia Wahapiro; 91, Te Kahu Wahapiro; 92, Maata te Uira; 93, Neha te Uira; 94, Piripi te Uira; 95, Te Uira te Manihera; 96, Tuteao Manihera; 97, Tuteao Tamaiti te Uira; 98, Te Aokawehi te Manihera; 99, Te Pi te Pihopa; 100, Te Huia te Pi; 101, Te Wahapiro; 102, Taipua te Manihera; 103, Tirini te Wahapiro; 104, Ngakoroai te Wahapiro; 105, Kupakupa te Wahapiro; 106, Mere Karere.

*List of Names of Ngatihekeawai hapu of Ngatimahuta, Waikato.*—107, Ropiha Pukekura; 108, Paraone Pukekura; 109, Hare Mate Pukekura; 110, Paeone Pukekura; 111, Motu Tara; 112, Pateamo; 113, Rihata; 114, Te Whatumoana; 115, Tiatia; 116, Te Aira; 117, Hapataua; 118, Rangiatea; 119, Pupuhi; 120, Pakea; 121, Hauriri; 122, Tarangarokiteuru; 123, Heikura; 124, Ngawari; 125, Tari; 126, Hakitaue; 127, Kito; 128, Timi; 129, Mere Neutana; 130, Piko te Motu; 131, Iita Motu; 132, Tamo; 133, Noti; 134, Utauta; 135, Rukuparu; 136, Morehu Pukekura; 137, Raukura te Whatumoana; 138, Te Kare Mitikau; 139, Te Oreroa; 140, Maiahu; 141, Tumahuki; 142, Ripeka Paa; 143, Tangihia; 144, Hine Rau; 145, Hui Taonga; 146, Rangimatapuna; 147, Te Okeokemotu.

*List of Names of Ngatiparetauaki hapu of Ngatimahuta, Waikato.*—148, Paewaka Toetoe; 149, Hori Kaora; 150, Henare Purukutu; 151, Hoeta Kaora; 152, Hoera Purukutu; 153, Tiwha Paora; 154, Manuera te Wani; 155, Teitei Turanga; 156, Takana Teitei; 157, Te Hika Waaka; 158, Heni te Hika; 159, Mihaka Titaha; 160, Kotimana Teitei; 161, Ruru Purukutu; 162, Te Wani Turanga.

*List of Names of Ngatinaenae hapu of Ngatimahuta, Waikato.*—163, Matene Porau; 164, Porau; 165, Heta Porau; 166, Hori Porau; 167, Marumaru Tawhana; 168, Te Kare Tawhana; 169, Teira Tawhana; 170, Hinewai te Ngahuru; 171, Te Wini te Ngahuru; 172, Paua te Paikauri; 173, Takerei Puhi; 174, Waehaere Hira; 175, Para Waikato Puhi.

*List of Names of Ngatitekiriwai hapu of Waikato.*—176, Mama Paeturi; 177, Hikihiki Paeturi; 178, Tuaupiki Paeturi; 179, Te Awa Paeturi; 180, Maata Paeturi; 181, Patupatu Paeturi; 182, Kopa Whakamaru; 183, Tangimoana Paeturi; 184, Te Waru Paeturi; 185, Parerangi Tarehu; 186, Toangina Paeturi; 187, Parewhai Ngatanga Toangina; 188, Haumurumuru Toangina; 189, Rerehau;

1—G. 1.

[346] Newspaper editor, Charles Terry, felt that a duty of £26.12s per ton for the protection of British shipping, was likely to encourage the 'surreptitious introduction into the Colony of oil and whalebone, from French and American whalers, when on the coasts (Charles Terry, New Zealand : its advantages and prospects as a British colony, with a full account of the land claims, sales of Crown lands, aborigines, etc. etc.., London, 1842, p.243).

[347] Waitangi Tribunal, Report of the Waitangi Tribunal on the Orakei Claim, Wellington, 4.1, 'The Treaty of Waitangi and Birth of Auckland', online, n.d., available at: http://www.knowledge-basket.co.nz/waitangi/welcome.html (3 January 2002)

[348] Terry, p.244.

Māori who were landless as a result of confiscation[349]. There were over 3000 names on that list. Behind each name would be a whānau story of disposition, of exile, of poverty and the consequences of that has resonated over generations. This is now termed intergenerational colonial trauma.

The Crown had embarked on the war as a speculative venture because it was assumed that a large profit was to be made via that incursion. This proved to be a false speculation, but it fuelled an accelerated land grab by the colonial government.

In 1852, New Zealand had a new constitution introduced by the British parliament that established the forerunner to today's parliament, which met for the first time in Auckland in 1854. There were no Māori members of that [democratic] parliament, even though at that time Māori were the majority population in Aotearoa.[350] Most Māori men couldn't vote for their parliament.

The amount of whenua originally confiscated from Tainui directly after the invasion was 3,215,172 acres of land. This was reduced to 1,341,362 when whenua was either purchased or returned to Māori post confiscation.[351]

Hapū in Waikato, Taranaki and Bay of Plenty were the most affected and it is no coincidence that these areas were the most productive in wheat and flour mills. Māori petitioned to have their lands returned to them through the court system, which was a long and expensive process and seldom successful. The Crown used cynical processes to fuel internal tribal conflict. Hapū that were seen to be loyal to the Crown were often the recipients of whenua that was returned, even when it was not theirs to begin with.[352]

### Legislation

Over the last 180 years of colonisation an endless list of legislation has been passed which has suppressed the rights of Māori in the use of their land and their lawful right to live in accordance with their customs and traditional lore. Some of the most draconian pieces of legislation which impacted directly on communal rights, which were described by the colonial government as communism, are detailed below.

Following 1840, the Crown implemented a policy that not only aimed to dispossess Māori of their land but also sought to convert the remaining Māori-held land from customary title to title granted by the Crown, known as Crown-granted or freehold Māori land. That term still exists today. By the early 1900s, the majority of customary Māori land that remained under Māori ownership had been transferred to freehold title. By 1980, the amount of customary land left was considered insignificant and was believed to mainly consist of uninhabited rocky islands and some tapu (sacred) land excluded from Crown grants.

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349 https://paperspast.natlib.govt.nz/parliamentary/AJHR1900-I.2.2.5.1

350 https://nzhistory.govt.nz/politics/treaty/treaty-timeline/treaty-events-1850-99

351 https://teara.govt.nz/en/1966/Māori-wars/page-3

352 M. P. K. Sorrenson, 'Māori and Pakeha', in W. H. Oliver & B. R. Williams, eds., The Oxford History of New Zealand, Auckland, 1987, p.186.

Where indigenous people in their identity are inextricably linked to land then legislation such as the acts which are articulated below must be viewed as genocidal. They were based on colonial views of white superiority and supported by a judiciary and politicians such as James Prendergast.

James Prendergast[353]

James Prendergast qualified as a lawyer in England and was admitted to the Otago bar in 1862. One of his first clients was Julius Vogel, a future premier of New Zealand.

In 1863, Prendergast became acting Otago provincial solicitor, and in 1865, the province's Crown solicitor. That year he was called to the Legislative Council and became attorney-general in the Stafford government. In 1870 Prendergast became first president of the New Zealand Law Society.

In 1875 the Vogel ministry appointed Prendergast Chief Justice of the New Zealand Supreme Court, a post he held for the next 24 years. Perhaps his most notorious and appalling contribution to New Zealand's race relations history, was Wi Parata v Bishop of Wellington. This was an 1877 case involving Māori land at Porirua. Prendergast did not agree that the courts could consider claims based on aboriginal or native title. Māori, as a "*primitive and barbaric*" tribal society, possessed no legal status, and therefore no legal rights that could be upheld. The Treaty of Waitangi was a "*simple nullity"*, as it could not create legal rights that had no foundation.[354]

Prendergast's approach to Māori custom reflected the white dominant law at that time. He established a legal precedent that impacted on Māori from then until the 1990's [although some say that extends even to today.]

His views on Māori customary law and culture were very convenient in justifying land confiscations and the separation of Māori from their whenua, under Law.  Those views were widely held in 19th-century New Zealand.

By the early 1900s, Māori freehold land accounted for just a little over 10% of New Zealand's total land area. However, this percentage had declined to 5% by 1980.[355]

### Government Land Acquisition

Even when Māori land was held under freehold title, it did not necessarily guarantee Māori control over it. Between 1840 and 1981, a considerable portion of Māori land was vested or

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[353] https://commons.wikimedia.org/wiki/File:JamesPrendergast.JPG

[354] https://nzhistory.govt.nz/the-chief-justice-declares-that-the-treaty-of-waitangi-is-worthless-and-a-simple-nullity

[355] Asher and Naulls, pp 46–51

reserved by the Crown, further limiting Māori control. Land that was "returned" following confiscations was often reserved and vested in the control of Crown agencies, such as the Public or Māori Trustee, under perpetual leases. The Crown eventually assumed administration of all reserved and vested lands in trust for Māori, with Māori excluded from management and control. Some of these lands were sold or utilised for public purposes, such as establishing universities, while others were leased indefinitely to tauiwi. Starting from the mid-1970s, most reserved and vested land was converted into regular Māori freehold land. A significant portion was vested in Māori incorporations and trusts, although still subject to leasing. Consequently, very little of this type of Māori land remains today.[356]

The land acquisition laws introduced in New Zealand after 1840 were influenced by principles developed in English law over centuries. Interestingly, the main principle that allowed the state to take private land for public purposes was not significantly different from traditional Māori land tenure, where individual rights were subject to the greater needs of the hapu or iwi. But the tauiwi model was still founded in individual land ownership, not collective guardianship – which was the Māori world view.

The state's right to take private land for public purposes contradicted the high regard for private landownership in English law, so it was accompanied by protections that favoured the interests of the powerful landed class of that time. One such protection was the principle that landowners were entitled to full and equivalent compensation when their land was taken. Typically, land title was fully transferred to the state, and compensation was paid, usually in money.

The English principles also necessitated the enactment of specific Acts for each land acquisition, resulting in a system of scrutiny and consultation in Parliament, which was the landowners' forum. Parliamentary approval was required, and the takings were explained and had to gain majority support. As land takings for projects like railways and canals became more frequent, a consistent set of procedures with meticulous protections for individual owners was established in the Lands Clauses Consolidation Act of 1845. These protections, including the right to notice, the right to object, and the right to an independent hearing, addressed the needs of English landowners at that time.

Māori land tenure concepts had slightly different requirements. The overarching idea that individual or private land rights should yield to the needs of the community aligned well with Māori perspectives. Māori leaders might have been willing to accept this concept if they had been meaningfully included in the new system of government and if adequate measures were taken to respect their rangatiratanga and address their concerns regarding the land acquisition process. But they were not.  They did not even have representation in the so-called democratic parliament.

As articulated by Sir Hugh Kawharu, traditional Māori land tenure allowed individuals and families to have rights of use and occupation over specific areas of tribal land or resources.

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[356] Cathy Marr (1997) Public works takings of Māori land, 1840–1981

These rights could not be taken away by anyone, including a Rangatira, without the approval of the community authority that granted them.

However, these rights were always subordinate to the overall interests of the community and could be revoked by the elders. Traditional concepts also encompassed granting certain rights to outsiders. Individuals or groups from other tribes could be given access rights and even allowed to reside with the tribe. They could be permitted to utilise, cultivate, and occupy sufficient lands necessary for their sustenance. In return, it was customary for them to make donations of produce to the resident tangata whenua.[357]

Due to the immense cultural, spiritual, and economic significance of land to the Māori, as well as the influence of concepts like turangawaewae, they preferred granting use rights for public purposes [not title transfer] which could completely alienate the land. This preference became particularly evident in the later years of the 19th century when Māori land was rapidly diminishing. It also stemmed from the realisation that regaining land once it was no longer needed for a public project was extremely challenging.

When Māori gifted land, there was often an expectation that it would be returned if its original purpose was no longer relevant. Additionally, Māori consistently raised concerns regarding the acquisition of their land for public works, emphasising the importance of negotiation, communication, and consultation throughout the process. The Crown did adopt this policy at certain times, and over time it was observed that engaging in meaningful dialogue was a practical way to address the needs of public projects while respecting Māori interests.

The Māori expectation that land would be returned once it was no longer needed aligned with the notion and had shared similarities with the weaker pre-emptive right of former English landowners. Additionally, Māori sought to be consulted as Treaty partners, which paralleled the requirement for English promoters to present their proposed Acts for scrutiny by other landowners in Parliament.

During the initial two decades of settlement, the Crown pursued an extensive land purchase policy from Māori for settlement and public purposes, effectively avoiding the need for compulsory land-taking provisions. The Crown engaged in negotiations with Māori regarding future road development, rather than imposing its "right" to take land for roads. This approach was presented as evidence of honouring Treaty guarantees and helped prevent confrontations that could have jeopardized the survival of early immigrant settlements, which relied on Māori protection and goodwill.

During this period, significant public provisions were established, often on land acquired or gifted by Māori for such purposes.[358] Māori actively supported and encouraged the

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[357] I H Kawharu, (1977) Māori Land Tenure: Studies of a Changing Institution, Oxford, Clarendon Press, pp 60–61

[358] https://nzhistory.govt.nz/media/interactive/Māori-land-1860-2000

construction of roads, schools, and hospitals, recognising the economic and communal benefits they would bring.

Although Māori grew reluctant to sell more land by the late 1850s and became increasingly wary of the government's intentions, they still desired the continued development of the new society and opportunities for economic growth. They recognised the value of public works like roads in fostering such development and continued to support projects that would benefit the entire community. However, their suspicions toward the government intensified, and they sought a genuine commitment to 'power sharing' within the evolving power structures of the time.

Thus - there were some early instances when the Crown followed a policy of negotiation and consultation with Māori leaders, opting to purchase land for public purposes rather than imposing compulsory measures. But as the tauiwi population grew, the settler government chose to forego the opportunity for such accommodations and instead resorted to warfare to assert their own dominance, thereby imposing compulsory land-taking provisions on Māori land.

Specifically - by the 1860s, the settler population in New Zealand had surpassed that of Māori, leading settlers to assert that previous accommodations for Māori interests were no longer necessary. While adjustments were made to public works provisions in other areas to adapt to changing circumstances, such flexibility was not extended to Māori.

The Native Lands Act 1862 was passed to individualise and register Māori land in a form that was recognisable under English common law. Under this act, settlers could directly buy land from Māori, the first time since the 1840s. At this time, Māori had a large role in deciding land ownership issues with 11 Māori judges in the localised court system.

In 1864, during a period of wars aimed at asserting such dominance, the first legislation containing compulsory provisions for public works on Māori land was enacted.[359] These provisions were closely tied to punitive land confiscations occurring at the same time. As Māori were still denied representation in Parliament, these provisions were seen as part of a strategy to pacify and "civilise" them. There was no commitment to engaging them as Treaty partners through consultation.

## Native Land Court

In 1865, the Native Land Court was established and with it, the next stage of dispossession began. The Māori judges were demoted to assessors and had no role in decisive matters of Māori custom, especially pertaining to land.

[359] https://nzhistory.govt.nz/politics/treaty/the-treaty-in-practice/obtaining-land

The Native Land Court was required to name no more than 10 owners of Māori controlled land, no matter how big the land block or the Hapū that resided there. These 10 people held individual land rights, not communal or on behalf of their community and were able to sell the land if they so chose, without the need to confer with the other members of their Hapu.

Land deals and disputes were heard by the Native Land Court. Any individual, whether a rightful owner or not, could apply for an investigation of land title. This forced whole communities of Māori to travel to the Court, often from long distances, to present their evidence as the court would only hear evidence presented on the day.

If the landowners boycotted the proceedings or were unaware that they were taking place at all, the land could be awarded to others.[360]

Even if the claimants/defendants were successful in securing their land rights, the process of court, which included court fees, lawyers, interpreters, surveyors, accommodation and food etc, was so expensive that they often had to sell some their land interests anyway.

Debt entrapment became a common technique to dispossess Māori of their lands as a result of the establishment of the Native Land Court.

Also at that time, a separate Crown right to take a percentage of Māori land without compensation for roads and later railways was established through the Native Lands Acts.[361]

Although based on the Crown's right to provide for future road infrastructure on all Crown-granted land, these provisions were developed separately for Māori land and became increasingly discriminatory from 1865 onwards. Normal protections were disregarded, citing the complexity of Māori land titles. These provisions were implemented when roads and railways were of significant interest to settler communities, and their application was often confusing and inconsistent, allowing authorities to take advantage of the situation. Māori land was considered easier to acquire, leading to the bending of rules and the circumvention of protections.

The Crown knew that Māori could seldom afford to challenge these matters in the Courts – and how often they won if they did. Takings primarily served settlers' interests, while the needs of Māori were frequently disregarded. Roads were built through urupa, over sacred sites, often deliberately in lands where Māori had fought to protect their rights. This was most evident in the Waikato region after the wars and after Tainui were driven from their lands into the King Country. This separate right to take Māori land without compensation had huge implications and it was only abolished in 1927.[362]

After the wars in the early 1870s, knowing that these policies would inflame conflict, the New Zealand government adopted a policy of negotiating with Māori for the purchase of land needed. However, this policy was largely limited to "sensitive" areas [where the Crown

[360] https://nzhistory.govt.nz/politics/treaty/the-treaty-in-practice/obtaining-land

[361] https://nzhistory.govt.nz/politics/treaty/the-treaty-in-practice/obtaining-land

[362] https://teara.govt.nz/en/te-tango-whenua-Māori-land-alienation/print

knew Māori would uprise again] in the North Island. In other regions, the Crown exercised its right to take land for roads and railways without compensation and without adhering to normal protections.

During the 1870s, public works legislation focused on the implementation of general land-taking provisions as part of a national program of public projects. The government anticipated that this ambitious endeavour would stimulate the economy and address the "Native problem" by providing employment opportunities to Māori communities and increasing the number of European immigrants in the North Island.

The Native Land Act 1873 stated that every landowner had to be listed on the title and no land could be awarded to Hapū or Iwi. This undermined the tribal leadership model that Māori had existed in for hundreds of years by changing the whenua from being into a series of paper titles owned by individuals who were unaccountable to the rest of their Hapū / Iwi and each of those individuals was able to sell the land without any consultation with the other owners.

As the individual titles were inherited by the following generations, including those that did not live on the land, increasing fragmentation of Māori Land ownership occurred. Occupation of land via ahi kaa had been abolished and, as consultation with the other landowners of the blocks was required before development could occur, the practical ability to develop land by the people that lived there was drastically reduced.

This meant that many whānau and hapū were unable to feed or resource themselves effectively and resulted in the land being sold instead.

### Settler Domination

By the late 1870s, settler domination over Māori was nearly complete. Settler governments had successfully removed earlier Crown protections of Māori land, including limitations on local authority powers. Māori concerns based on the Treaty of Waitangi were often disregarded by governments. They argued that Article 1 of the Treaty granted full sovereignty and the right to use compulsory provisions, overriding any guarantees in Article 2. Furthermore, Article 3 obligated Māori to accept the responsibilities of British citizenship, including the taking of land for public purposes, rather than confirming their equal rights as citizens. The Article 1 assertion is still used today even though the Waitangi Tribunal [notably in the most recent Nga Puhi Claim] has found that Māori did not cede sovereignty whatsoever in signing the Treaty.

During this period, legislative and other developments increasingly favoured settler interests, leading to increased marginalisation of Māori. Attempts by Māori to participate in political and economic power were met with rejection, and settler governments aggressively suppressed any perceived challenge to their authority. In the early 1880s, the Parihaka community's peaceful resistance [the first ever passive resistance recorded in world history] was met with violence, murder and harsh legislation.

Under the Native Lands Rating act 1882, Māori were charged up to 300% of the equivalent European land. Surveys of Māori lands were conducted, often without notification, and debts occurred by non-payment of rates and/or survey costs resulted in land being taken in lieu.[363]

In addition to this was the phenomenon of "Gunpoint sales", a practice whereby Māori were forced to sell their lands on the spot by settlers who were armed. One settler in Matamata obtained 20,000 hectares by this method.[364]

The attitudes of intolerance and superiority were strongly reflected in the public works legislation of 1882, which contained discriminatory provisions regarding the taking of Māori land. It took several decades, until the 1960s and 1970s, for some improvements to be made to these provisions. Furthermore, public works legislation consistently lacked active protections for Māori interests, even in the subsequent Public Works Act of 1981.

In 1894 The Native Rights Bill was introduced to Parliament. Tabled by Māori MPs and drafted with the assistance of Te Kotahitanga – a pan-tribal Māori unification movement, it sought to abolish the Native Land Court, secure the rights of Māori to make their own land laws, control the Māori land reserves and land development. All non-Māori MPs walked out at the first reading and the bill was rejected in 1896.[365]

The 6th sitting of the ''Kotahitanga'' Parliament at Pāpāwai in 1897, with Prime Minister of New Zealand Richard Seddon in attendance.[366]

An outcome that was achieved in 1894 was the ability for Māori to bring together interests under a single administrative body. The adoption of this did not take place until 1929 with the introduction of the Māori Land Development Scheme by Sir Apirana Ngata.

By the early 1910s, almost 3/4s of land in the North Island passed out of Māori control. In the South Island, most of the settler owned land had been acquired before 1865 and, by the 1910s, less than 1% was held by Māori.

By 1928, the amount of Māori land remaining had significantly diminished to less than 10 percent of the total land area. Māori were deeply concerned about the ongoing loss of their ancestral land, and the ongoing encroached via public works takings.

From 1928 onwards, a familiar pattern emerged with legislative measures that expanded powers without adequately considering Māori interests. Acts such as the Native Land

[363] https://teara.govt.nz/en/te-ture-Māori-and-legislation/page-4

[364] https://teara.govt.nz/en/te-ture-Māori-and-legislation/print

[365] https://teara.govt.nz/en/te-ture-Māori-and-legislation/page-3

[366] https://commons.wikimedia.org/wiki/File:Papawai1897.jpg

Amendment and Native Land Claims Adjustment Act 1929 provided for large-scale development of Māori land and set up the Native Land Development scheme.

### The Māori Land Development Scheme 1929

The Māori Land Development Scheme 1929, developed by Apirana Ngata, as previously mentioned, provided government funding to Māori landowners to develop the physical infrastructure of their farms, and, in some cases, the Crown contributed small areas of land to the schemes.

The ability to develop their land interests and gain funding to do so led to many Māori adopting this structure. However, inadequate management of some of the schemes by the Crown led to large debt being accumulated by Māori that had to be solely carried by Iwi.[367] An example of this is the Ngāti Manawa Development Scheme, which has only in recent times been repaid.

During World War II, the Māori War Effort Organisation (MWEO) was created by iwi to operate independently of the government. The MWEO worked on various projects, including recruiting Māori for wartime employment, fundraising, and community-based welfare.

Iwi were running their affairs autonomously, and they wanted the government to recognise their self-administration and discipline by replacing the Department of Native Affairs and the Māori Land Boards with tribally based committees that would operate at the community or marae level. These committees would work with a new decentralised department in charge of Māori Affairs.[368]

However, the government placed the MWEO under the control of the Pākehā-led Department of Native Affairs, which undermined Māori self-determination. Additionally, there was blatant racism from top officials within the department who encouraged the disappearance of independent Māori organisations.[369]

In 1945, the government passed the Māori Social and Economic Advancement Act, and in 1949, the Crown authorized the improvement of over a quarter of “unproductive” Māori land under the Department of Native Affairs and their Pākehā managers.

However, the proposals meant that Māori owners would have to agree in advance to Department of Māori Affairs operational control, which would mean surrendering control to Pākehā managers before receiving developmental aid. This would further delay Māori

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[367] https://schools.look4.net.nz/history/new_zealand/time_line3/1929_land

[368] Hill, Richard, Māori and the State: Crown-Māori Relations in New Zealand/Aotearoa 1950-2000 (2009)

[369] ibid

owners’ ability to exercise rangatiratanga over their land in a meaningful way, even if they retained ultimate ownership.[370]

By the 1950s, most of the land owned by Māori was under the control of the Māori Land Boards, who made all the decisions about its use.[371]

### The Māori Trustee

In 1950, Apirana Ngata questioned whether the Department of Native Affairs was the best fit to oversee the Act, given that many within the department engaged in deliberate obstruction and questioned the appropriateness of Māori projects at every turn. The department was later renamed the Department of Māori Affairs after the passing of the Māori Affairs Act 1954. However, not much changed as Pākehā were still the managers of every branch, and much of the newly developed land passed to non-Māori Pākehā lessees on long term tenure, which came under the control of the Office of the Māori Trustee.[372]

The Māori Trustee was established under the Māori Trustee Act 1953 and continues to be appointed by the Māori Land Court to administer Māori freehold land and other assets on behalf of the beneficial owners. Unfortunately, the shift away from the Department of Māori Affairs did not improve the situation, and institutional racism became entrenched, disempowering Māori owners’ ability to exercise rangatiratanga over their lives and land. The Māori Trustee can approve lessees without consulting the owners, and owners do not have an automatic right to receive copies of lease agreements or know how much their land is leased for, and the length of the lease.[373]

In 1953, Prime Minister Sidney Holland advocated for the utilisation of the Māori Affairs Act as a means to legally acquire "unproductive" Māori land. This act allowed individuals to apply for the transfer of underutilised Māori land into trusteeship by presenting their case to the Māori Land Court. This provision enabled the Māori Trustee to compel Māori landowners with shares of low value to sell their interests. The act remained in effect as the governing legislation for Māori land for a span of 40 years.

The Town and Country Planning Act of 1953 was enacted, introducing district schemes that exerted control over the utilisation of Māori land. These schemes implemented measures

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[370] Marr, C, 1997, Public Works Takings of Māori Land, 1840-1981, Waitangi Tribunal Rangahaua Whānui Series, Wellington, Waitangi Tribunal; Hill, 2009

[371] Hill, Richard, Māori and the State: Crown-Māori Relations in New Zealand/Aotearoa 1950-2000 (2009)
[372] Ibid

[373] Maranga Mai! The dynamics and impacts of white supremacy, racism, and colonisation upon tangata whenua in Aotearoa New Zealand. ISBN: 978-0-478-35634-2 November 2022

such as designated land use, zoning regulations, subdivision requirements, and contributions to public reserves, influencing how Māori land was utilised and retained.

### Māori Affairs Act

Additionally, the Māori Affairs Act 1953 established the main land management structures as being Section 438 trusts and the Māori land incorporations, this ultimately leading to the creation of ahuwhenua trusts via the Te Ture Whenua Māori Act 1993

The Māori Land Court was obligated to consider the requirements of district schemes when handling planning matters within its jurisdiction. However, the Act did not provide mechanisms for incorporating Māori interests in the development of district schemes, thus limiting the inclusion of Māori perspectives in the planning process.

In the 1960s, there was a growing public awareness and concern about the harsh aspects of general public works land-taking provisions. It became widely acknowledged that the authorities responsible for land takings had accumulated excessive power and showed insufficient regard for other public interests or protections for landowners. The extensive powers that were deemed acceptable during the earlier period of opening up and development were no longer seen as acceptable by the 1960s. But Māori interests were still not considered.

Despite this, in 1967, an amendment to the Māori Affairs Act was passed, which mandated the transfer of any Māori freehold land with less than five owners into general land title. This amendment also facilitated the easier acquisition and sale of "uneconomic" Māori land.

By the 1970s, there was evidence of a more responsive attitude towards Māori concerns regarding compulsory land-taking provisions, particularly at the central government level. However, this responsiveness was inconsistent and less evident at the local authority level. Some government agencies opted for alternative approaches to acquiring Māori land for public purposes, such as leasing scenic reserves or enacting special legislation that mandated the return of land to its former owners if it became unnecessary.

Some efforts were made to address the discriminatory effects of public works provisions on Māori land. In the 1960s, the Māori Trustee was tasked with negotiating compensation for multiple owners, but the Crown still had control measures in place even over this organisation. In the 1970s, notification procedures and the separate taking provisions were improved. Despite these changes, issues persisted in Māori land takings, and there were no specific provisions mandating the active protection of Māori interests.

The Public Works Act of 1981 aimed to strengthen general landowner protections and limit the powers of taking authorities. It introduced concepts like "essential" works and strengthened offer back provisions. While these improvements benefited all landowners, including Māori landowners, the 1981 Act did not specifically require Treaty considerations when considering takings of Māori land for public works or its disposal when no longer needed for public purposes. This became [and still is] an Article 2 breach issue.

The Port of Tauranga was built on Māori land taken under the Public Works Act. The government made a partial payment 10 years later and on sold surplus land at prices up to 10 times higher than what it paid.[374]

## Māori Population decline

Following the signing of the Treaty of Waitangi in 1840, the Māori population continued to decline, reaching a low point of approximately 42,000 individuals by 1896. New introduced diseases devastated Māori communities, just as they had in other British colonised indigenous populations all over the world. This is further detailed later in this section.

This population decrease, coupled with racist ideologies, suited the colonisers and led to 'concerns' and predictions about the extinction of the Māori people. Little was done to address the issue however, and in fact, in 1856, Dr. Isaac Featherston, a physician and politician, said it was the role of the Pākehā to 'smooth down … [the] dying pillow' of the Māori race.[375]

By 1860, the two groups had achieved equal numbers, and Pākehā dominance was solidified due to substantial immigration from Britain through to the mid-1870s, which overwhelmed the Māori population. From 1874 onwards, Māori made up less than one-tenth of the total national population, and this remained unchanged for a century.[376]

This demographic marginalisation of Māori resulted from the rapid growth of the Pākehā population, was closely tied to the displacement of Māori from their land. By 1860, only 20 years after the signing of the Treaty, a huge portion of Māori-owned land, around 65%, had been transferred to non-Māori ownership.

This land grab continued via various illicit means particularly before 1906, and occasionally as recently as the 1960s[377] and the land that was left to Māori was all but useless. It is

[374] https://teara.govt.nz/en/photograph/36543/land-taken-for-public-works. Image: https://www.interest.co.nz/nzx50/pot

[375] Quoted in Peter Buck (Te Rangi Hīroa), 'The passing of the Māori.' Transactions and Proceedings of the Royal Society of New Zealand 55 (1924), p. 362.

[376] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-2

[377]https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-2

estimated that as of 2016, 80% of land held in Māori title was of non-arable class and 30 percent was landlocked. This also included areas of whenua locked up under conservation estate through the Department of Conservation.[378] The belief in the eventual extinction of the Māori people reflected the prevailing colonial sentiment that indigenous populations would not survive the conquest and diseases brought by Europeans.

The genocidal policies and white supremacy theories prevailed. In 1881, the renowned scientist Alfred Newman expressed the view that '*the disappearance of the race is scarcely subject for much regret. They are dying out in a quick, easy way, and are being supplanted by a superior race*.'[379]

However, he and other racists did not understand the resilience and entrepreneurial capability of Māori and their long-term views and strategies. In 1891, Māori cabinet minister Sir James Carroll rejected the extinction theory and instead predicted that Māori population decline could be halted through economic self-development - Tino Rangatiratanga and Mana Motuhake.

He was right. But the struggle was long and arduous.

## Health and Mortality

The long-term consequences of land alienation had a detrimental impact on the health of Māori, especially children. Following the loss of land in any region, there was a significant rise in child mortality rates, and it took several decades for these rates to improve. During the 1880s, Māori mortality rates were considerably higher than those of Pākehā and higher than they had been prior to contact with Europeans.

Health check-up in 1950[380]

Little is understood [or discussed within society] of the devastating impact colonisation had on Māori and in particular on children. Mortality rates were particularly concentrated in childhood, with 40% of Māori girls born in the 1890s dying before their first birthday.[381] At that time, the average life expectancy of a new-born Māori girl was in the early 20s, while a new-born Pākehā girl could expect to live over 55 years.

378 MAF: 2011:2

379 Alfred K. Newman, 'A study of the causes leading to the extinction of the Māori.' Transactions and Proceedings of the Royal Society of New Zealand 14 (1881), p. 477.

380 Photograph by K. V. Bigwood. Licensed under a Creative Commons Attribution 3.0 New Zealand Licence

381 https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-1

The primary factor influencing Māori population dynamics during the early 19th century was the impact of introduced diseases. Māori were highly susceptible to new illnesses like influenza and measles, which had swift and severe effects. However, inland the potential devastation was mitigated by the low population densities and their distance from disease-infested coastal ports. The traditions around Tangi and Tangihanga increased the spread of these contagious diseases where hundred could attend Tangi for 3 to 5 days, sharing close proximity to each other and to the person who had passed away.

Missionaries seized opportunities associated with the disease driven devastation born by whole communities by stating that the cause of these illnesses was the Māori's heathen beliefs and they stated that the Tohunga and healers who used rongoa Māori were fake because they could not cure the illnesses.

Māori readily embraced introduced livestock and crops, particularly pigs and potatoes, which helped decrease their vulnerability to malnutrition and consequently reduced the risk of infection.[382]

During the middle of the 19th century, there was a decline in Māori fertility. This decrease can be attributed to various factors, including the introduction of sexually transmitted diseases, a high occurrence of miscarriages caused by the spread of new contagious diseases, and the influence of malnutrition on the ability to conceive. By the end of the century, Māori had acquired a certain level of immunity to European diseases, but the damage had been done.[383]

By 1921, the proportion of Māori to Pākehā (European settlers) was 4.2 for every 100 individuals. However, there were still two regions where Māori populations remained concentrated: Northland and the East Coast. In the Hokianga district, the number of Māori exceeded that of Pākehā, and in the Bay of Islands, the ratio was 64 Māori to 100 Pākehā. These areas experienced slower Pākehā settlement due to challenges such as poor soil fertility or inadequate road infrastructure. In contrast, the Māori to Pākehā ratio in Auckland was less than one for every 100 individuals. In the South Island, only Picton and Wairau had Māori densities higher than one for every 100 Pākehā.[384]

In 1940, observers acknowledged the positive aspect of Māori population recovery, while also emphasising the challenges that accompanied the accelerated growth. The ongoing social and economic disadvantage faced by Māori was a significant concern.

By 1945, Māori life expectancy at birth was still 20 years lower than that of Pākehā, indicating a significant disparity. Dr. Harold Turbott's study of Māori communities on the East Coast during the 1930s highlighted widespread malnutrition and poverty that likely extended throughout the country. Although there were gradual improvements in Māori living conditions and a gradual decline in mortality rates, there remained a considerable

[382] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-2

[383] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-2

[384] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-3

level of uncertainty and vulnerability.[385] This continues to exist today with the highest levels of socio-economic deprivation being seen in the East Cape region.

### Economic Pressures and Industrialisation:

From the mid-1870s to the mid-1890s, New Zealand faced the negative impact of low export prices, resulting in some years of net emigration. However, there was a revival in wool prices during the 1890s, coinciding with the emergence of new exports such as meat and dairy products.

In the mid-1890s, the utilisation of refrigeration technology provided the New Zealand government with fresh possibilities and a degree of independence from Britain.[386] The advent of refrigeration had a transformative effect on pastoralism in New Zealand. It enabled pastoralists to enhance their farming practices, particularly in terms of intensification, and selectively breed sheep that were well-suited for slaughter and exportation. This intensified approach to pastoral farming was further aided by the ongoing acquisition of Māori land by both the government and private entities. [387]

This agriculture intensification continued right through all of the, so-called, agricultural revolution phases, resulting in an over exploitation of natural resources and ultimately a breaching of five of the nine planetary boundaries of sustainability within primary production in New Zealand.

This ultimately led to a loss of social licence for industries such as intensive milk production noting that the genesis of the dairy industry model was established in the Waikato region on land confiscated from Tainui during and after the illicit war perpetrated against innocent Treaty partners.

World War One had a disruptive impact on agricultural production in Europe, creating a strong demand for New Zealand's primary exports. This led to high export prices, prompting New Zealand farmers to borrow and invest heavily between 1914 and 1920. As a result, land prices soared during this period. Unfortunately, the early 1920s marked the beginning of a prolonged decline in international commodity markets. Many farmers faced challenges in servicing and repaying their debts.[388]

The global economic downturn, which commenced in 1929-30, affected New Zealand through the collapse of commodity prices on the London market. The depression heavily burdened farmers, resulting in negative net farm income during the lowest point in 1931-32. Declining commodity prices further exacerbated the already significant challenges of

[385] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-3

[386] Williams, David V. (1999). P12-24

[387] Mohaka Ki Ahuriri Report. (2004). p644

[388] https://eh.net/encyclopedia/an-economic-history-of-new-zealand-in-the-nineteenth-and-twentieth-centuries/

servicing and repaying farm mortgages. This economic downturn also affected meat freezing works, wool mills, and dairy factories, causing a downward spiral of decline in those industries.

The Great Depression of the 1930s had a significant impact on Māori communities in New Zealand. Māori experienced higher levels of poverty and unemployment compared to the general population. The depression led to a decline in economic opportunities, especially in industries such as farming, forestry, and fishing, which were crucial for Māori livelihoods. Many Māori who had been forced to urbanise to seek employment, lost their jobs and struggled to find alternative employment.

Additionally, the government's response to the economic crisis often favoured Pākehā (non-Māori) workers over Māori workers. Māori were often the first to be laid off from jobs and faced discrimination in accessing relief and support programs. This exacerbated existing disparities and inequalities faced by Māori in areas such as education, healthcare, and housing.

So, as New Zealand became more integrated into the global economy, the focus shifted towards industrialisation and urbanisation. Economic policies favoured large-scale commercial farming and industrial development, which further marginalised traditional Māori agriculture. Māori communities faced economic pressures and often struggled to compete with larger, more established farming operations.

Interestingly however, in remote rural communities such as East Cape, where self-sufficiency and Marae based provisioning were prevalent, many Māori families were able to cope with the depression far better than those who lived in urban environments. Many non-Māori who were suffering enormously in these urban centres literally began walking what is now known as state highway 35 from Opotiki to Gisborne looking for work or even food.

Many of those non-Māori, who were supported with provisioning from within those communities, 'immigrated' into those families, never to leave.  These lessons from the so-called 'sugar bag' era prove valuable today, and discussion as well as modelling around things such as shortening supply chains, food security, and bio circular economies were all alive and well within these communities back in the 1930s.

### Land Consolidation

The New Zealand government introduced land consolidation schemes with the intention of enhancing agricultural productivity and efficiency through the consolidation of fragmented land holdings. However, these initiatives had severe negative consequences for Māori land and economic interests as it was often targeted towards Māori land, which was already under pressure due to historical land confiscations, sales, and fragmented ownership.

As has been discussed in the Tairawhiti section of this paper, Apirana Ngata was an integral part of consolidating fragmented shareholdings in whenua Māori. His intention was to create large land blocks that could be utilised for larger scale sheep, beef and dairy operations.

Whilst this was successful in the short term, small to medium Māori farming operations that worked cooperatively together were unable to compete with their pākehā counterparts with access to better finances, resources and supporting infrastructure, and many collapsed as a result.

Mostly - Māori faced huge obstacles in developing their enterprises due to their inability to obtain bank loans and government grants. Furthermore, there was an inequity in the valuation of Māori land compared to general title land, which created further barriers.

Banking institutions have historically been hesitant to provide financing for Māori ventures because whenua Māori cannot typically be sold to cover the debt in the event of loan default. This reluctance by banks to offer financial support to Māori continues to persist to this day.[389] Ironically, the BNZ funded the Great South [military] road which supported the war against Tainui, the confiscation of their land, and the establishment of New Zealand's dairy industry, now heavily indebted to this and other Australian Banks.

During the 1930s, the administration of the land consolidation scheme, initially initiated by Apirana Ngata, was centralised under the Native Department. Subsequent governments shifted the focus away from rural Māori and towards maximizing land utilisation for the greater benefit of 'the nation'. Another major challenge was the scarcity of suitable land remaining under Māori ownership, making it difficult to achieve substantial economic prosperity.

## Industrialisation of Farming.

The consolidation schemes aimed to create larger, more efficient farms by combining small landholdings into larger units. This facilitated the adoption of modern farming practices, machinery, and technology, ultimately leading to the industrialisation of agriculture.

This is reported on more extensively in the Agriculture Revolution section of this paper.

The government promoted intensive farming methods, such as dairy farming and sheep farming, which required larger land areas and substantial capital investments. As a result, traditional Māori land-use practices, which were often referred to as "communist" declined. They involved provisioning [food security] mixed cultivation [diversity], unique horticulture, land and soil conservation [agro-ecology] and community based social / cultural enterprises working symbiotically in circular economies. These were systematically undermined and replaced by large-scale, commercial farming operations, which now seek to adopt regen-

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389 https://www.rnz.co.nz/news/in-depth/468122/the-land-laid-bare-why-Māori-can-t-build-on-their-whenua

agricultural, circularity, higher food security, localised supply chains and reduced reliance on external inputs, and a social licence to operate.

The advent of the turnstile dairy process[390], meant that up to a thousand cows could be milked in a few hours. The increased production using this system meant that small dairy farms could no longer compete, and large dairy farms run by a few farmers became the norm in New Zealand. In many areas, such as the East Cape region, this meant Māori unemployment and urbanisation also increased, draining the communities as rangatahi left in search of work and the pākehā dream of wealth.

With the increasing specialisation in farming and the decline of part-time farmers, the trend emerged of consolidating very small farms into larger landholdings. Between 1946 and 1957:

- the total area of holdings under 100 acres (40 hectares) fell by some 140,000 acres (57,000 hectares)
- the total area of holdings between 100 and 1,000 acres (40–404 hectares) increased – within this category, the total area of holdings between 320 and 640 acres (130–259 hectares) increased by more than 100,000 hectares.
- the total area of the largest holdings decreased slightly as cultivation became more intensive and some pastoral lands were retired.[391]

### Urbanisation

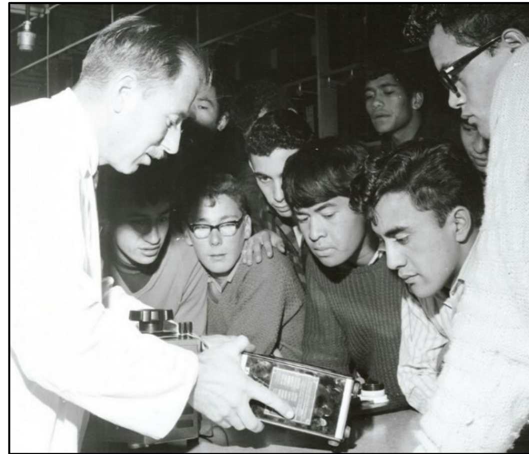
Following the decline of their once plentiful economic resources, Māori had to seek alternative methods of supporting themselves. This typically involved a mix of subsistence farming and engaging in temporary or sporadic wage labour, which often meant being away from their homes for certain periods of time. Opportunities for employment, such as shearing or working in meat-processing industries, could be financially rewarding during peak seasons. However, Māori workers and their families faced considerable difficulties during the off-season, particularly if they were unable to tend to their own agricultural activities at home.[392]

Māori increasingly relocated to urban areas, seeking improved prospects such as access to better housing, well-paying jobs, and other opportunities.[393]

Māori and Pākehā communities were primarily segregated, residing and working in separate locations until the Māori urban migration period, which followed the Second World War,

[390] https://www.dairybarnsystems.co.nz/knowledge-centre/a-timeline-of-dairy-in-nz/
[391] https://teara.govt.nz/en/land-ownership/page-7
[392] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-3
[393] Mohaka Ki Ahuriri Report. (2004). p473-7

which brought them into closer proximity.[394] The urban migration of Māori was spurred by the challenging conditions they faced during the Great Depression in the 1930s. Māori individuals were frequently the first to lose employment opportunities, and they received lower unemployment benefits compared to Pākehā until the Labour Government addressed this disparity in 1936.[395]



A Māori electrical pre-apprentice class at the Auckland Technical Institute.[396]

In 1956, approximately 66% of the Māori population resided in rural areas, while by 2006, the percentage had significantly shifted, with 84.4% of Māori living in urban areas.[397] The Hunn Report, released by the Government in 1961, shed light on the challenges experienced by Māori individuals transitioning to urban areas. The report specifically noted a significant underrepresentation of Māori in higher levels of education, referred to as a 'statistical blackout.' As a result, Māori migrants to cities were predominantly engaged in low-skill occupations, including road maintenance, factory work, freezing works, transportation, and building trades.[398]

During this time, Māori faced discrimination in finding housing and employment. They also had lower levels of education and fewer skills compared to the majority population, making them more vulnerable to unemployment, especially as economic conditions worsened in the 1970s and 80s.[399]

Rapid urbanisation in New Zealand resulted in various social problems. The influx of Māori into urban areas led to tensions as many Europeans resisted having Māori as neighbours. Suburbs like Ōtara in South Auckland and Porirua East in Wellington, which were once predominantly Pākehā, experienced a shift towards becoming predominantly Māori communities, later joined by other Polynesian migrants.

The younger generation of urban Māori no longer solely identified with their ancestral marae and genealogy (whakapapa) as the basis of their cultural identity. This cultural disconnect led to thousands of tamariki and rangatahi being placed in State care facilities. Consequently – more that 80% of all Māori gang members in Aotearoa have been dislocated

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[394] Mohaka Ki Ahuriri Report. (2004). P642

[395] Ibid p 659

[396] By Photographer: Mr. Riethmaier - https://ndhadeliver.natlib.govt.nz/delivery/DeliveryManagerServlet?dps_pid=IE25799622, CC BY 2.0, https://commons.wikimedia.org/w/index.php?curid=89427610

[397] www.stats.govt.nz. Quick Stats about Māori. Census 2006
Te Puni Kōkiri (Ministry of Māori Development) means a group moving forward together. October 2007

[398] Walker, Ranginui. (1992b). p500

[399] https://teara.govt.nz/en/Māori-pakeha-relations/page-5

from whanau and placed in such institutions in Aotearoa. This urbanisation had extremely negative outcomes on Māori such as dropping out of school, struggling with mental health issues, engaging in substance abuse, or becoming involved in gang activities to try to find their lost sense of belonging.

### Education

The education system played a significant role in assimilation efforts. After the New Zealand wars, the enactment of the Native Schools Act in 1867 led to the creation of a nationwide network of primary schools administered by the Native Department.

Under this act, Māori communities were responsible for providing the land for the schools and contributing to the costs of constructing buildings and paying teachers' salaries, although these latter requirements were abolished in 1871. In 1879, the management of the 57 native schools was transferred to the newly established Department of Education.

In 1880, the implementation of the Native School Code standardized various aspects of these schools, including their establishment criteria, curriculum, instructional hours, governance, and other related matters.

From the beginning, the primary focus of the native schools was to teach English. The intention was to gradually phase out these schools once English became dominant within the communities. Initially, the Māori language was allowed to facilitate the instruction of English, but over time, official attitudes became more rigid, prohibiting any use of the Māori language. In later years, many Māori children faced punishment for speaking their native language at school.[400] Many Māori students were forced to leave their culture and even their names at the school door or risk being punished with the cane. This renaming of tamariki also prevailed in State care facilities, where many of the children would ultimately end up.

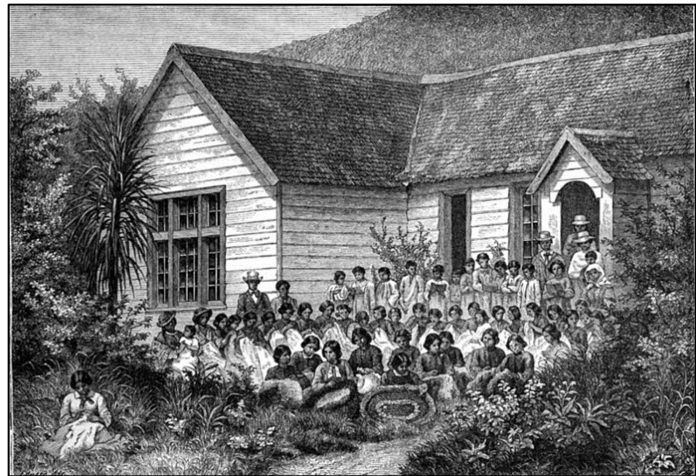
For some time, the emphasis on English was generally accepted by Māori communities, who strong cultural identity, who valued their Māoritanga (Māori culture) and wanted their children to be bi-lingual and equipped for success in the Pākehā (European) world. Assimilation then ramped up to a point where there was even a petition by Wi te Hakiro in 1876 to ban the speaking of Te Reo by any student in school, Māori or Pākehā as English was viewed as the path to a better future by some Māori. They could not have envisaged at this time however, the future that this would lead to.

Compulsory schooling for Māori was introduced in 1894. The demand for these schools was significant, particularly in areas where Māori communities had remained neutral or had friendly relations during the wars. The intention was to assimilate Māori into Pākehā culture and promote English language fluency and Western education. Apart from basic literacy and

[400] https://www.nzherald.co.nz/nz/te-wiki-o-te-reo-Māori-beaten-for-speaking-their-native-tongue-and-the-generations-that-suffered/F7G6XCM62QAHTYVSRVOCRKAUYI/

numeracy skills, the curriculum heavily emphasised teaching manual and domestic skills. Insidiously, young Māori women were told that they needed to only train to be housewives and the education they received was structured to that outcome. Māori in professional roles could be counted on one hand in most regions, and none were women.

There were only a few small exceptions to this rule. Schools such as Te Aute College became very popular as there were avenues to higher pākehā education there. John Thornton, the headmaster of the school, whilst still being of the opinion that Māori must emulate Pākehā for the sake of their own survival, provided education to Māori in algebra, geometry and Latin and also encouraged Māori to speak te reo to stop the language from dying. He then worked with Samuel Williams in the late 1890s to include Māori as a BA subject in the University of New Zealand.[401]



Taupiri Mission Māori School 1865[402]

The government of the time obviously disapproved and launched a Royal Commission investigation on Te Aute and the Wanganui school Trusts in 1906 to see if there was enough resource being committed to manual and technical instruction. The agenda of the commission became clear when George Hogben, Inspector General of Schools, recommended that Latin, Euclidean Geometry and Algebra be dropped in favour of increased agricultural and manual instruction.

Thornton resisted with partial success, but the schools board was pressured into accepting Hogben's recommendation and access to the opportunities Thornton created were greatly restricted.

Kaikohe Native School classroom, 1939[403]

Despite the introduction of free secondary education in the 1930s, Māori had limited opportunities to access such schooling due to the concentration of high schools in urban areas away from Māori in these areas. Māori communities who remained in rural regions had very limited access.

In the late 1930s, the number of Māori children attending secondary school was very low, with most of them enrolled in Māori

[401] https://teara.govt.nz/en/biographies/2t42/thornton-john

[402] https://commons.wikimedia.org/wiki/File:Le_Tour_du_monde-11-p289.jpg

[403] MSS & Archives 2008/15, folder 173/1.

boarding schools. To address this disparity, native district high schools were established starting in 1941, where secondary departments were added to existing schools. Initially, these schools faced challenges with inadequate resources and a heavy focus on vocational training. However, with the introduction of the national School Certificate examination in 1945, the curriculum began to broaden.[404]

After 1945 the Māori population grew rapidly and became increasingly urban. The number of Māori in mainstream schools began to far exceed those in Māori schools (as they became known from 1947).

In 1955 Māori school numbers reached their peak of 166, but by this time department officials were planning the transfer of the schools to regional education boards. Māori communities, which regarded Māori schools as their schools, resisted the change.

Advocates of Māori schools pointed to the fact that they catered more successfully to Māori needs than mainstream schools. However, the 1961 Hunn Report identified the extent of Māori disadvantage in the education system and advocated integration, which relied on Māori and Pākehā attending the same schools. In 1969 the remaining Māori schools were transferred to the control of the regional education boards.

The inclusion of School Certificate, a national examination, in the curriculum of native district high schools in 1945 had an impact on student enrolments at Te Aute and Hukarere, two prominent Māori schools.

With the process of urbanisation, more Māori students began attending their local state secondary schools. As a result, Hukarere faced closure between 1969 and 1992, although the boarding facilities remained open, and students attended classes at Napier Girls' High School. Similarly, Te Waipounamu Māori Girls' College transitioned to being a hostel only in the early 1980s and eventually closed entirely in 1990.

The remaining church schools integrated into the state education system in the 1970s and 1980s. However, declining enrolments and other challenges led to the closure of St Stephen's (2000) and Queen Victoria (2001).

### Cultural Suppression

Traditional Māori customs, practices, and spiritual beliefs were often stigmatised and discouraged.

Policies such as the Tohunga Suppression Act 1907, whilst being touted as a protection for Māori against improper medical practices and even supported by influential Māori such as James Carroll, Hone Heke Ngāpua and Apirana Ngata, had far reaching impacts.

[404] https://teara.govt.nz/en/Māori-education-matauranga/page-3

It is important to note that Ngata was firmly of the view that the bill was to target the so called “Second Class Tohunga” – people claiming to be healers using bastardised versions of Māori and Pākehā medicines[405] and not those steeped in the old knowledge, which they refused to write down for fear that it would be misused or appropriated and were even less inclined to do so after the passing of this bill.

An intent behind the bill was to combat the growing influence of Rua Kenana,[406] although he was never prosecuted using it, because of his status as a spiritual leader and his open defiance of the establishment of the native schools teaching English instead of Māori.

Rua Kenana[407]

Coupled with the ‘smoothing the pillow’ for the dying race ethos at this time it is clear that banning tohunga and attacking their ability to be spiritual and cultural leaders of their people was designed to hasten the assimilation process.

## Adoption and Foster Care

Government policies favoured the placement of Māori children with Pākehā families through adoption or foster care, aiming to assimilate them into Pākehā culture and diminish their connection to their Māori heritage.

The Oranga Tamariki Act 1989 (formerly the Children, Young Persons, and Their Families Act established Oranga Tamariki as a government department and gave it the power to intervene in Māori families' lives, often resulting in the removal of Māori children from their families and communities, contributing to the erosion of cultural connections and large-scale Māori mental health deprivation.

Judge Beecroft in the Royal Commission Inquiry into Abuse of Care in 2019 was damning of the Oranga Tamariki saying, “Generations of children and young people have been failed by a State care system that should have kept them safe from abuse and neglect, upheld their rights and ensured their well-being and best interests. Instead, many of them have been exposed to even greater trauma and pain. The brunt of this failure has been experienced by Māori.”

He went on to state that, “The care and protection and youth justice systems should protect and assist children and young people, so they can lead full and thriving lives. However, the

[405] Hiroa, Te Rangi "Medicine amongst the Māoris, in ancient and modern times", 1910, p. 109

[406] https://teara.govt.nz/en/biographies/3r32/rua-kenana-hepetipa

[407] Wikimedia Commons/CC BY-SA

sad reality is that some children and young people continue to experience abuse in State care today, along with poor long-term health, education, and employment outcomes."[408]

The report showed that Māori make up 71% of the children and young people in care and protection residences and 80% of those in youth justice residences, despite representing only 18% of the population.[409] The proportion of children and young people in State care who are Māori has increased from 64% to 68% in the last 5 years. Children and young people gave their views on the impact this has on their experiences, and for Māori, their identity.

*"They are all Māori in here. It's like being in YJ [youth justice] is a Māori thing" (15-year-old young man in a youth justice residence)*[410]

Amongst many things, the report commented on the impacts of colonisation on Māori saying, "The enduring legacy of colonisation combined with systemic racism has long affected decisions made by State departments and institutions, including child welfare systems. The impacts of colonisation, associated dislocation of Māori from their whenua, land, community, economic base, culture and language has contributed to the disproportionate number of Māori entering State care. Institutional racism also contributes to Māori children and young people in State care experiencing poorer outcomes. The Crown has consistently failed in its obligations under Te Tiriti o Waitangi."[411]

The recommendations from the report proposed a system, known as Puretumu Torowhānui, be developed based on principles and values rooted in te ao Māori. It involves an independent Māori Collective, alongside survivor representatives and other stakeholders, in designing the scheme. The system aims to give effect to the Treaty of Waitangi and is funded by the government, with contributions from participating institutions.

Key features of the proposed system include financial payments to acknowledge harm and trauma, tailored oranga (well-being) services for survivors and their whānau (family), facilitation of meaningful apologies, a safe environment for survivors to share their experiences and make claims, coverage of various forms of abuse, priority for elderly or seriously ill survivors, and the involvement of survivors in decision-making processes.

The Puretumu Torowhānui system would be part of a broader framework that includes expanded support services, training for professionals working with survivors, a listening service, processes for reporting abuse to enforcement agencies, improved monitoring and reporting mechanisms, memorials and projects honouring survivors, legal changes, and improvements in record-keeping practices.

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[408] Office of the Children's Commissioner Royal Commission Inquiry into Abuse in Care October 2019

[409] Oranga Tamariki data as at 30 June 2018.

[410] Office of the Children's Commissioner Royal Commission Inquiry into Abuse in Care October 2019

[411] Ibid

Overall, the aim is to establish a fair, effective, and accessible system that provides redress and support to survivors of abuse and neglect.

### Legislative summary

From 1850 to 1993, there were several Acts of Parliament in New Zealand that had a negative impact on the Māori people. Below is a list of some significant acts during that period:

1. New Zealand Settlements Act 1863: This act allowed for the confiscation of Māori land as a consequence of the New Zealand Wars, impacting many Māori communities and leading to significant land loss.
2. Native Land Act 1865: This act established the Native Land Court, which aimed to convert communal Māori land into individual titles, often resulting in further land loss and fragmentation of Māori land ownership.
3. Native Schools Act 1867: This act introduced a system of separate Native (Māori) schools, which often received less funding and resources compared to European schools, contributing to educational disparities.
4. Suppression of Rebellion Act 1863 and Suppression of Rebellion Act 1868: These acts were specifically targeted at suppressing Māori resistance during the New Zealand Wars, resulting in further confiscation of Māori land and restrictions on Māori rights.
5. Native Land Act 1873: This act further facilitated the alienation of Māori land by making it easier for European settlers to purchase Māori land, often at undervalued prices.
6. Tohunga Suppression Act 1907: This act aimed to suppress traditional Māori healing practices and spiritual customs, leading to the marginalization of Māori cultural practices and knowledge.
7. Māori Land Amendment Act 1924: This act made it easier for Māori land to be leased or sold, contributing to further loss of Māori land and exacerbating land ownership issues.
8. Māori Social and Economic Advancement Act 1945: While this act aimed to improve Māori social and economic conditions, it had unintended negative consequences by promoting assimilation and undermining Māori self-governance.
9. Māori Affairs Act 1953: This act centralized control over Māori affairs within the government, further eroding Māori self-determination and decision-making.

It's important to note that this list is not exhaustive, and there were other laws, policies, and practices during this period that negatively impacted Māori in New Zealand. The consequences of these acts have had long-lasting effects on Māori communities, their land, culture, and overall socio-economic wellbeing.

### Conclusion

Settlers arrived in New Zealand with a set of ingrained expectations. The Victorian racial hierarchy had them at the apex of the system and they travelled to New Zealand only to find that Māori were in charge, they dominated the economy, they were independent, and they owned incredibly valuable lands throughout Aotearoa.

Many of the settlers resented the fact they couldn't get their hands on it. They saw indigenous people as savages, devoid of a true faith, incapable of having laws, an obstacle to their colonising agenda.

Once they had the ability to give effect to their desire to obtain whenua Māori by whatever means necessary, the Settler government embarked on a campaign of war, then confiscation through legislation. Once pākehā dominance had been firmly established, the law was then used to maintain the status quo, disestablishing Māori leaders, depriving Māori industry and assimilating and attacking Māori whānau.

The truth regarding the genocide and land confiscations, the murder of innocent women and children, the burning of places of worship with whanau inside and the long list of oppressive Acts that kept Māori in poverty and vulnerable has to be acknowledged. When the unprecedented success of Māori in the Golden Years of agriculture and economic development are set against this backdrop, it is even more amazing to see how they have regained their identity and their dignity.

Reconciliation for Māori is a process, not a destination, and truth begins that process. A te Ao Māori Primary Production model, based on the application of Mātauranga Māori and out paces British land-use models are part of the documented history of Aotearoa.

If the TAMPP model is to be revived for the benefit of the whole primary production sector, the full history of how it was developed, and then destroyed, needs to be articulated.

## Te Ture Whenua Māori Act

During more than 180 years of struggle against colonial oppression Māori have been subjected to a series of legislative Acts which have placed an encumbrance on landowners and whole communities with regards to how they manage both individual as well as collective land interests.

The Te Ture Whenua Māori Act 1993 was landmark legislation which finally began to recognise the inexorable link between whenua Māori and cultural identity and the value Māori placed upon whenua as a taonga.

The Act incorporated the values of the Treaty of Waitangi into its provisions, as outlined in the preamble. It recognized the importance of Māori autonomy and retained trusts and incorporations as a means for owners to exercise control.

*Nā te mea i riro nā te Tiriti o Waitangi i motuhake ai te noho a te iwi me te Karauna: ā, nā te mea e tika ana kia whakaūtia anō te wairua o te wā i riro atu ai te kāwanatanga kia riro mai ai te mau tonu o te rangatiratanga e takoto nei i roto i te Tiriti o Waitangi: ā, nā te mea e tika ana kia mārama ko te whenua he taonga tuku iho e tino whakaaro nuitia ana e te iwi Māori, ā, nā tērā he whakahau kia mau tonu taua whenua ki te iwi nōna, ki ō rātou whānau, hapū hoki, a, a ki te whakangungu i ngā wāhi tapu hei whakamāmā i te nohotanga, i te whakahaeretanga, i te whakamahitanga o taua whenua hei painga mō te hunga nōna, mō ō rātou whānau, hapū hoki: ā, nā te mea e tika ana kia tū tonu he Kooti, ā, kia whakatakototia he tikanga hei āwhina i te iwi Māori kia taea ai ēnei kaupapa te whakatinana.*

*Whereas the Treaty of Waitangi established the special relationship between the Māori people and the Crown: And whereas it is desirable that the spirit of the exchange of kawanatanga for the protection of rangatiratanga embodied in the Treaty of Waitangi be reaffirmed: And whereas it is desirable to recognise that land is a taonga tuku iho of special significance to Māori people and, for that reason, to promote the retention of that land in the hands of its owners, their whanau, and their hapu, and to protect wāhi tapu: and to facilitate the occupation, development, and utilisation of that land for the benefit of its owners, their whanau, and their hapu: And whereas it is desirable to maintain a court and to establish mechanisms to assist the Māori people to achieve the implementation of these principles.*

The history of the Te Ture Whenua Māori Act can be traced back to the Native Land Act 1862, which introduced a system of individual land titles and facilitated the alienation of Māori land. This led to a significant loss of Māori land and disrupted traditional communal land tenure systems. Subsequent land legislation, such as the Māori Land Act 1909 and the Māori Affairs Act 1953 further complicated land ownership and management.

Recognising the need to address these issues and promote the effective use and development of Māori land, the New Zealand government initiated a comprehensive review of Māori land legislation in the 1980s. This review process involved extensive consultation with Māori communities and resulted in the drafting of the Te Ture Whenua Māori Bill, which eventually became the Te Ture Whenua Māori Act 1993, replacing the Māori Affairs Act 1953.

The Act introduced several important changes and provisions. It established the Māori Land Court and Māori Appellate Court as specialised judicial bodies to handle matters related to Māori land. The Act also provided for the establishment of the Māori Land Service, which assists Māori landowners in managing their land.

One of the key objectives of the Act was to facilitate the retention and effective use of Māori land within Māori communities. It introduced mechanisms to address issues of fragmented ownership, such as the establishment of trusts and incorporation schemes to enable collective decision-making and development of Māori land. The Act also aimed to protect the interests of multiple owners and prevent further alienation of Māori land.

The Act was intended to address historical injustices and provide a framework for the sustainable management and development of Māori land. While its implementation has faced challenges and ongoing debates continue, the Act has played a significant role in shaping the legal and administrative landscape of Māori land in New Zealand. Its impact on Māori has been complex, with both positive and negative consequences, but it represents a key milestone in recognising and addressing the unique challenges and opportunities associated with Māori land.

Consequently, any significant changes to the Act, including the possibility of its complete repeal, have raised suspicion and concern among some Māori and has led to the filing of claims with the Tribunal to address these issues.[412]

There was an attempt at reviewing and amending the Act in 2015 but was withdrawn by the government after facing criticism from many, including judges, prominent lawyers and Māori rōpū[413]. The concerns were:

1. Lack of meaningful engagement: Critics argued that the review process did not adequately involve or consult with Māori landowners and their communities. They felt that their voices and perspectives were not sufficiently taken into account, leading to a sense of exclusion and marginalisation.
2. Insufficient recognition of Treaty principles: Concerns were raised about the limited acknowledgment and application of Treaty of Waitangi principles in the revised Act. Critics argued that the Act should have better reflected the partnership and obligations between the Crown and Māori, including their respective rights and interests in land.
3. Weakening of Māori land rights: Some critics believed that the review resulted in a dilution of Māori land rights and weakened protections for Māori land ownership, use, and control. They felt that the changes favoured individualisation and commercialisation of land, potentially undermining the collective aspirations and socio-cultural values associated with Māori land.
4. Lack of clarity and complexity: The revised Act was criticised for being overly complex and lacking clarity in its provisions. Critics argued that this could create legal uncertainties and challenges for Māori landowners, hindering their ability to effectively manage and develop their land.

As such, given the level of negative feedback on this amendment, the government withdrew the Bill and continued to work on amendments that were more acceptable.

In 2020, Te Ture Whenua Amendment Act was passed[414]. The main changes in the legislation are outlined below:

1. Succession and Trust Applications:

[412] He Kura Whenua ka Rokohanga 2016

[413] https://www.rnz.co.nz/news/national/296039/consultation-on-Māori-land-law-%27nonsense%27

[414] https://legislation.govt.nz/bill/government/2019/0179/latest/whole.html#LMS156129

- Previously, Māori Land Court Judges handled all succession and trust applications under the 1993 Act.
- Now, simple and uncontested applications can be decided by a registrar of the Māori Land Court without a court hearing, reducing costs and expediting the process.

2. Succession and Descendants:
    - Under the 1993 Act, a deceased landowner's interest in Māori land passed to their surviving spouse or de facto partner, even if they had no ancestral connection to the land.
    - The amendments to the Act change this by entitling the surviving spouse or partner to income from the land and occupation of the family home (if on Māori land), but not ownership of the land.
    - Descendants can now apply to succeed to the land upon the landowner's death, allowing them to have a stake, voting rights, and involvement in land management earlier.
    - The rights of whāngai were further clarified.
    - Previously whāngai could only succeed to interests in whenua Māori if the Māori Land Court determined they had been formally recognised by the previous owner.
    - Now whāngai status is determined by the tikanga of the relevant iwi or hapū. The Māori Land Court's determination of whāngai and descent relationship status for succession purposes is now informed by that tikanga.
    - Whāngai may be awarded the right to occupy the principal family home on the whenua and / or receive any beneficial interest/s derived from the utilisation of the whenua.
    - The rights are given for a specific time period or a life interest, do not give ownership interest in the whenua and cannot be transferred from that person.
    - The rights of naturally descendants of the whenua do not override those of whāngai unless hapū tikanga disproves the whāngai status.
3. Dispute Resolution:
    - Previously, the 1993 Act did not offer dispute resolution options outside of the Māori Land Court, leading to sensitive family matters being discussed in a public court setting.
    - The amendments introduce a free mediation service provided by the Māori Land Court, based on tikanga, which aims to preserve relationships and can be facilitated on marae.
    - This mediation service offers a more accessible option for resolving disputes among large groups of landowners and helps avoid unnecessary litigation.
4. Occupation Orders:
    - The Māori Land Court can grant occupation orders for Māori freehold and general land owned by Māori.
    - Previously, beneficiaries of whānau trusts were not eligible to apply for occupation orders.

    - The amendments now allow beneficiaries of whānau trusts to obtain occupation orders, supporting Māori landowners in building homes and living on their ancestral lands.
5. Supporting Papakāinga Housing:
    - Occupation licenses for living on marae and other Māori reservations were previously limited to 14 years without renewal, posing challenges for developing papakāinga housing.
    - The amendments enable occupation licenses for papakāinga housing to be granted for more than 14 years, with the option of renewal, removing barriers to funding and promoting the utilisation of whenua for housing purposes.
6. Extension of the Māori Land Court's Role:
    - Previously, the Māori Land Court's jurisdiction was limited in hearing certain matters related to Māori land, even when it would have been the most appropriate venue.
    - The amendments expand the Māori Land Court's role to assess cultural implications in dealing with interests in Māori land.
    - For example, when granting access to landlocked Māori land, the Court will consider the applicant's relationship with the whenua, water, cultural or traditional sites, and other taonga associated with the land, which differs from the assessment made by the High Court for general land cases.
7. Māori Trusts and Incorporations:
    - These entities are now required to maintain a register of interests for the holding of, and dealings by, the members of their committees of management. These declarations must be made annually.

The relevance of Te Ture Whenua has on creating a Te Ao Māori Primary Production model is that it is the principal document that provides a legal framework and regulations related to Māori land ownership, management, and use.

Some of the key aspects of the Act that can impact the development of a Māori primary production model are:

1. Ownership and retention of Māori land: As the Act promotes the retention of Māori land in the hands of its owners, whānau, and hapū, it ensures that Māori have control over their land and enables them to participate in primary production Activities according to their aspirations and cultural values.
2. Land development and utilisation: The Act facilitates the occupation, development, and utilisation of Māori land for the benefit of its owners, whānau, and hapū. It provides mechanisms for land development, leasing, and other forms of land use agreements, enabling Māori to engage in primary production ventures such as agriculture, horticulture, forestry, or aquaculture.
3. Protection of wāhi tapu: The Act recognises the significance of wāhi tapu on Māori land and aims to protect them. This ensures that any primary production Activities undertaken on Māori land respect and safeguard the cultural and spiritual values associated with wāhi tapu.

4. Governance and decision-making: The Act establishes structures and processes for governance and decision-making regarding Māori land. It enables the establishment of trusts, incorporations, and other entities that can assist in the management and development of Māori-owned land for primary production purposes. These entities can provide leadership, expertise, and support to Māori landowners in creating and implementing their primary production model.

Overall, the Te Ture Whenua Māori Act provides a legal framework that recognises the significance of Māori land and seeks to empower Māori in managing and utilising their land for primary production. It aims to support the aspirations of Māori communities and promote sustainable economic development while respecting cultural values and connections to the land.

The Act can play a crucial role in facilitating the establishment of a Māori primary production model by providing the necessary legal and regulatory mechanisms for Māori landowners to engage in productive Activities and maximize the potential of their land resources.

While the Te Ture Whenua Māori Act has been instrumental in providing all of the above, there have been criticisms and concerns about its impact on indigenous values. Some of the negative aspects of the Act on indigenous values include:

1. Limited recognition of collective ownership: The Act primarily focuses on individual ownership and transferability of Māori land, which can undermine traditional collective ownership models that are rooted in indigenous values and kinship systems. This individualisation of land ownership does not align with the cultural and spiritual significance that Māori place on communal and collective relationships with the land.
   Conversely, whilst there are protections available for small shareholders in trusts and incorporations, the election and AGM processes are typically dominated by large shareholders. This creates issues of the establishment of fiefdoms where dominance of governance structures by specific whānau and their own interests at the expense of other shareholders.
2. Loss of ancestral connection: The Act's emphasis on development and utilisation of Māori land for economic purposes and prioritises economic gain over the preservation and protection of ancestral connections to the land. This has led to a diminished sense of cultural identity and disconnection from traditional customs and practices associated with the land.
3. Limited recognition of tikanga Māori: The Act's legal framework, particularly the 1993 version, has not fully accommodated or prioritised tikanga Māori and indigenous decision-making processes. This has resulted in conflicts between Western legal systems and indigenous cultural values, leading to tensions and challenges in upholding and practicing traditional customs and protocols. The 2020 amendment has gone some way to addressing some of these concerns but there is more work to be done.
4. Barriers to land retention: Despite the Act's intention to promote the retention of Māori land, various factors such as complex legal processes, financial constraints,

and external pressures have made it challenging for Māori landowners to retain and protect their ancestral lands. This has resulted in the loss of land and undermining indigenous values and connections to the whenua.

5. Limited protection of wāhi tapu: While the Act recognised the significance of wāhi tapu, the effectiveness of its provisions in protecting these sacred sites on Māori land have been a subject of criticism. Concerns have been raised about the adequacy of safeguards and the potential for conflicts between economic development interests and the preservation of wāhi tapu.
6. The Māori Land Court has a unique ability to make decisions that is not available in any other Court in New Zealand. The Māori Land Court has received criticism for decision-making being based on the emotional bias of the judges when making their determination. This has led to judgments that have flown in the face of facts presented to the Court and led to unjust outcomes for petitioners to the Court.

These negative aspects highlight flaws in the Act that reflect the challenges in balancing the interests of economic development, land utilisation, and indigenous values within a legal framework.

Efforts have been made to address some of these concerns through subsequent amendments and ongoing discussions between Māori communities, policymakers, and legal experts to ensure the protection and promotion of indigenous values within the framework of the Act.

The establishment of a TAMPPS is the next logical step in addressing and resolving these issues. It provides a framework in which to contextualise the application of the current Act, investigate where the flaws or constraints lie, and then inform Policy or Legislative change that can improve the wellbeing of whanau via better legal instruments. A stress test if you will.

## Environment Aotearoa 2022 Report

*Environment Aotearoa 2022* was produced by the Ministry for the Environment and Stats NZ under the Environmental Reporting Act 2015. The triennial report synthesises the evidence base on the state of the environment contained in domain reports since *Environment Aotearoa 2019*. This is a summary of the full report provided by the Ministry.

The summary below details a sad legacy of loss, with the vast majority of that occurring in the last 180 years since colonisation came to our shores. All parts of the environment are inter-dependent, creating a symbiotic relationship which should be viewed as a single complex organism. Cumulative impacts and pressures have combined with each other and compounded over time. Understanding the complexity of the symbiotic relationships is simplified by Māori through reference to Matariki and an understanding of the role and function of each of the stars or deities within that cluster.

**Te Kahui o Matariki The cluster of stars that rise together in unison to mark a new year.**

The individual stars that make up the Matariki cluster exert both a singular as well as collective influence upon te Taiao. Their roles and functions are detailed below:

**Tupuānuku and Tupuārangi** 'Tupu' means 'new shoot' or 'grow'. Tupuānuku is connected to food grown in the ground. Tupuārangi is connected to everything that grows above the earth or from the sky such as birds and berries.

Matariki (Pleiades, M45)[415]

**Waitī** is connected to freshwater and all living things that inhabit rivers, lakes, streams, and wetlands.

**Waitā** is associated with the ocean and represents the many types of food we gather from the sea.

**Waipuna-ā-rangi** is connected to rain. Her name means 'water that pools in the sky'.

**Ururangi** is connected to the winds. His appearance predicts the winds for the year.

**Pōhutukawa** is connected to those who have passed since Matariki the previous year. Pōhutukawa prompts us to reflect on the past year.

**Hiwa-i-te-Rangi** signals the promise of the new season. She is the youngest (Pōtiki) of the cluster.

It is said within our indigenous culture that the pathways of the future are made up from these stepping stones of the past. Building a resilient future pathway and creating a legacy for generations to come requires us to acknowledge the wisdom of those who have passed on.

When **Matariki** rises, we honour the memories of our ancestors.

**Pōhutukawa** is the star that is connected to the dead. She encourages us to reflect on the past and to be thankful for those who have contributed to our lives. Reflecting on what we have lost can guide us into the future. When we apply this principle and thinking to environmental damage and biodiversity loss, we note that m**ore than 80%** of land was covered with native forest before human arrival. This was reduced to 27% in 2018.

At least 81 animal and plant species became extinct after human arrival, including 62 bird species.

[415] By pbkwee - https://www.flickr.com/photos/rimuhosting/8311767303/, CC BY 2.0, https://commons.wikimedia.org/w/index.php?curid=107406838

Over 80 exotic species brought by colonisers became established, contributing to the decline of the original ecosystems of Aotearoa. Introduced species compete with and prey on our native biodiversity.

**Tupuānuku** is connected to anything associated with the soil, including cultivated and uncultivated foods grown in the ground.

The way we use our land impacts soil quality and availability. Intensive use of the land that produces our food has led to degraded macroporosity (the number of pore spaces in the soil), especially in areas of dairy and dry stock farming. Macropores are important because they provide air for roots and allow water to flow through the soil.

Our activities impact on our terrestrial biodiversity**.** We are losing opportunities to connect with our native species and ecosystems, which are under threat and declining. This affects our health and wellbeing, as well as our sources of income.

Our indigenous forests have been reduced to a third of their original extent.

**Waitā** is associated with the ocean and marine conditions and represents the food gathered from the sea. He is situated below his sibling Waitī. Our sea levels are rising. Climate change is contributing to rising oceans, putting our coastal communities at risk. Our sea is becoming more acidic. Increased carbon dioxide in the atmosphere from human activities is absorbed by sea water, making it more acidic.

Our wellbeing is connected to the state of the ocean. Coastal sites allow us to connect with nature and form communities. Our shores provide spaces for recreation and are important places for gathering kai moana. Healthy oceans allow hapu, iwi, and whanau to carry out traditional customary practices.

Microplastics have now become a significant problem within the marine environment. They and other pollutants are ingested by marine species and accumulate.

**Waitī** is connected to freshwater as well as the plants and animals that live in the springs, streams, rivers, lakes, and wetlands.

She sits above her sibling Waitā, who is connected to the marine domain, reflecting the interconnectedness of water (wai) between these domains. The air we breathe, the skies we observe, and the weather we experience, can affect our wellbeing.

Freshwater environments provide food, shelter, and breeding or spawning sites for many types of birds, invertebrates, fish, and taonga species. When we use our freshwater environments for recreation or to collect mahinga kai, or share knowledge of freshwater taonga species, we are connecting with Waitī. Spending time in or near rivers, lakes, and wetlands is good for our physical and mental wellbeing.

Regulating flows**;** Wetlands are like giant filters, they can remove nutrients and sediment from water, control floods, and are also important in combatting climate change.

**Ururangi** means ‘winds of the sky’ and is connected to atmospheric conditions, winds, and the sky.

Tikanga Māori practices rely on the observation of the sky to predict the correct times for planting and or hunting and fishing.

**Waipuna-ā-rangi** means 'water that pools in the sky' and is connected to the rains and other atmospheric conditions. Rainfall and weather patterns are changing. Changes in future temperature and precipitation will have impacts on people and ecosystems. The ability to practice mahinga kai is intertwined with the weather, along with access to plants used for medicinal, practical, artistic, or ceremonial purposes.

Changing temperature, rainfall patterns, and extreme events increase the vulnerability of taonga species by altering their distribution, life cycles, and migrations.

The *Environment Aotearoa 2022* report explores the importance of the environment to our lives and livelihoods.

Three years on from the previous state of the environment report, our environmental indicators do not register much change. But we have changed the way we have approached and compiled the evidence.

*Environment Aotearoa 2022* places environmental change in the context of our lives as individuals, whānau, and communities. We have pulled together a diverse set of evidence drawing on Māori knowledge Mātauranga Māori, environmental science, health science, and economics.

The integrated approach and wellbeing focus of this report supports us to reflect on our connections with the environment (te taiao) and our impacts on it. The report advances the inclusion of mātauranga Māori in environmental reporting.

Understanding how Mātauranga Māori can inform environmental reporting is an active area of research. This report builds towards a more sophisticated understanding of how to bring different bodies of knowledge together in future reporting.

*Environment Aotearoa 2022* uses Te Kāhui o Matariki (the Matariki star cluster) to organise the evidence in the report. As a signal of the Māori new year, it commemorates loss and celebrates hope for the future. Each star in the cluster represents a way that we connect with the environment. Bringing a Māori world view (te ao Māori) recognises the interconnectedness of all parts of the environment, including people, and speaks to something that connects us all to Aotearoa New Zealand.

## Wellbeing and our connection to te Taiao

Our wellbeing is linked to a healthy environment.

In *Environment Aotearoa 2022*, we view people as part of the environment.
Wellbeing means different things to each of us, and how we define and understand our relationship with the rest of the natural world is diverse and evolving.
In Mātauranga Māori, wellbeing can be described using 'waiora'. The concept grounds human wellbeing in water (wai) as the source of life (ora). In this view, human wellbeing and te taiao are linked to one another.
*Environment Aotearoa 2022* brings together diverse conceptions of wellbeing in relation to the environment, helping provide a richer understanding of our many connections with the environment.

## Key findings about the environment and wellbeing

Loss and pressures on species and ecosystems (represented by the star Pōhutakawa) have changed with human settlement. Each generation leaves a legacy effect on the environment, including pressures of land-use change and intensification, pollution, natural resource use, climate change, and invasive species.
Land and soil (Tupuānuku) support our economy, food production, and our health. Soils regulate the flows of nutrients, contaminants, and water. Soil quality sometimes does not meet target ranges and we are losing soils to erosion, development, and land fragmentation. Over time the area of highly productive land available for crops and livestock has decreased.

Biodiversity and land-based ecosystems (Tupuārangi) provide us with food, medicines, and materials. Access to nature and greenspaces has wellbeing benefits, decreasing stress levels and increasing attention, cognitive function, and memory. Access to greenspace is limited and unevenly distributed, especially in urban areas. In recent years native forest cover has remained fairly static overall, but with increases in some regions and losses in others. The majority of our rare ecosystems are threatened. Habitat destruction, along with the introduction of mammalian predators, has severely reduced the populations of many unique birds, reptiles, and plants. Many remain threatened with extinction or are at risk of becoming threatened. Even small changes to our environment can have important consequences for ecosystems and species, and therefore our wellbeing.

Freshwater (Waitī) is vital to our wellbeing through health, cultural identity, food harvesting, and recreation. Our freshwater sources are degraded in areas where land has been transformed by human activities. Twenty-year trends show improvements in nitrogen and phosphorus concentrations for river water quality at some sites, and worsening trends at others. We continue to see the loss of wetland ecosystems, with concerted efforts by communities to restore them.

The marine environment (Waitā) contributes to our wellbeing through providing food, opportunities for recreation, and cultural knowledge of ocean navigation. Coastal water quality is changing with variable trends in nutrient and sediment pollution, and the impacts of plastic waste on marine life. Climate change is affecting our oceans through ocean

acidification and increased sea-surface temperatures, which will impact our marine ecosystems for generations.

Rain and frosts (Waipuna-ā-rangi) show that shifting rainfall patterns (along with warming temperatures) threaten our agricultural economy, native ecosystems, Māori customs, and impact our mental wellbeing. Short-term drought frequency is increasing in some parts of the country and glacier ice volumes are decreasing.

Air, winds, and the sky (Ururangi) demonstrate how our wellbeing is influenced by air quality and practices related to the observation of the winds and skies.

Air quality in Aotearoa is gradually improving; however, it still falls short of meeting the World Health Organization's 2021 guidelines for most air pollutants at monitored sites, albeit intermittently.

Light pollution from urban areas impacts some of our native species (such as wētā) and reduces our ability to see the stars.

For some people, wellbeing is connected to the ability to use the night sky as a guide, and to celebrate Matariki. Connecting with the night sky is a universal human experience associated with psychological benefits and an increased sense of responsibility towards te Taiao.

**Hiwa-i-te-rangi**

If we apply the principles of tikanga Māori and the wisdom of our ancestors it will improve our understanding of future trends, helping to ensure the health of the environment and of future generations.

## Recalibration

Looking to the future (Hiwa-i-te-rangi) identifies many challenges that may impact the wellbeing of current and future generations. These include the impacts of climate change, population growth, risks to food and water security, and threats to ecosystems.

*How is it possible that the most intellectual creature to ever walk the planet Earth is destroying its only home?* – Jane Goodall

The challenges ahead are complex.  But the learning and the teachings found within traditional knowledge, which are inextricably linked to climate and the impacts this has had on land, give us an invaluable tool or resource which can be applied within predictive modelling and climate change adaptation.

The application of traditional principles and practises increases resilience which has a significant impact on the health and well-being of communities that are severely impacted by the current and emerging climate change crisis.

This traditional knowledge assists us in building a robust environmental monitoring and reporting system which in turn supports New Zealanders' decisions and actions.

The need for reform to better integrate the environment and intergenerational wellbeing in policy has been documented by the Parliamentary Commissioner for the Environment. Over time this will require investment, research, and continuous innovation to build our knowledge base.

It would be wasteful, if not tragic, if the lessons learned over 35 generations of indigenous people occupation within this country are not used to form a foundation for policy and investment required to build a more resilient and climate sensitive future.

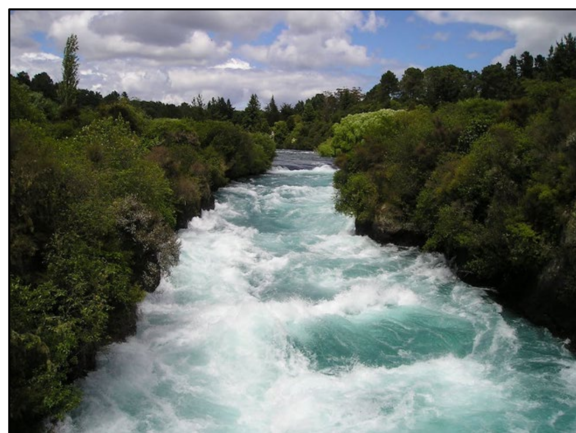
The report helps to transition us towards a new system of reporting that can empower us to create the future we want, for ourselves and for future generations. If the co-design, the methodologies and the implementation of policies and investment strategies required to ensure a safe and just transition into a new reality incorporate indigenous knowledge, a more sustainable and equitable outcome will prevail.

A land use diversification model that is based on te Ao Māori principles and practice allows us to address the clear challenges faces in the current eco-systems we have demolished in the pursuit of profit and individual gain. Perhaps the 2032 Report will show how a recalibration back to traditional values has changed this landscape.

"Earth provides enough to satisfy every man's needs, but not every man's greed." – Mahatma Gandhi

## The 2023 MFE Freshwater Report

The enclosed information within this report has been provided by the Ministry for Environment and Statistics New Zealand.[416] Analysis on the impact intensive land use practises have had on indigenous Māori over the last 180 years has been provided by Nga Uri o te Ngahere Trust.



Huka Falls[417]

While some of our freshwater bodies here in Aotearoa are in a reasonably healthy state, many have been degraded by the effects of excess nutrients, pathogens, and other contaminants from land use over the past 180 years since colonisation began.

Most of our indigenous freshwater fish and freshwater bird species, including some taonga species, are either threatened with extinction or at risk of becoming threatened. The effects of our historic and contemporary activities on our freshwater environment have impacts on

[416] Ministry for the Environment & Stats NZ (2023). New Zealand's Environmental Reporting Series: Our freshwater 2023. Retrieved from environment.govt.nz. This work uses material sourced from the Ministry for the Environment, Stats NZ, and data providers, which is licensed by the Ministry for the Environment and Stats NZ for re-use under the Creative Commons Attribution 4.0 International licence.

[417] https://commons.wikimedia.org/wiki/File:Huka_Falls_-_panoramio.jpg

many of the things we value as individuals, communities, and as a nation, such as our iconic and taonga species and being able to swim and practice mahinga kai without risk of illness.

### High Intensity Agriculture - the Antithesis to te Ao Māori and Mana Tiaki principles.

Mauri is a te Ao Māori concept that describes the spark of life and active component of that life,[418] and the binding force that holds together the physical and spiritual components of a being or thing.[419]

The kinship relationship between Māori and the natural world, through whakapapa, views all people as part of the natural system including all forms of wai (water), flora, fauna, and natural resources.[420]

Ki uta ki tai [mountain to the sea] approaches are intrinsically connected to particular places, wai, whenua, and the values of the people that live there.[421]

Taonga species are endemic to Aotearoa New Zealand (found nowhere else in the world) and significant to Māori, being unquestionably treasured. Taonga species vary among whānau, hapū, and iwi: this can be due to whakapapa connection and identified kaitiaki responsibilities.

They are also connected to traditional Māori practices and knowledge.[422] Taonga species names can also vary according to their life-cycle stage, iwi and hapū dialect, and within different regions. Taonga species represent symbols of status, association with death, tohu (signs), predictions of weather, metaphors, and stories.[423]

High intensity agriculture as a land use practice [such as dairy farming] is the antithesis to a te Ao Māori primary production system. This intensive land use model uses more fertiliser and irrigation than any other type of farming. Analyses of national river water quality monitoring data for 2016 to 2020 show that water quality is more degraded when there is more high-intensity pasture and horticultural land upstream (Whitehead et al, 2022).

Aotearoa has experienced one of the highest rates of agricultural land intensification over recent decades internationally.[424] Between 1996 and 2018, almost 60,000 hectares of exotic

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[418] Mead, 2003

[419] Durie, 1998; Morgan, 2006

[420] Harmsworth & Awatere, 2013; Stewart-Harawira, 2020

[421] Crow et al, 2018; Rainforth & Harmsworth, 2019

[422] Waitangi Tribunal, 2011

[423] Keane-Tuala, 2015

[424] OECD/FAO, 2015 within Mouton et al, 2022

grassland was converted from low producing to high producing, compared with only 3,500 hectares of exotic grassland converted from high to low production.

The intensity of agriculture has increased since the 1980s particularly due to a switch from sheep to dairy farming.[425] Dairy cattle numbers increased by 61 percent between 1996 and 2014, before falling 5 percent by 2018

The amount of irrigated land almost doubled between 2002 and 2019 from 384,000 hectares to 735,000 hectares (a 91 percent increase). Over the same period 73 percent of increases in irrigated land area were related to farms with dairy farming as their dominant farm type; 18 percent to grain, fruit and berry, and vegetable growing; and 9 percent to sheep and beef.

Modelling indicates that the long-term changes in river water quality measured nationwide between 1990 and 2017 were closely associated with the proportion of upstream land dedicated to pastoral agriculture and plantation forestry, the type and intensity of the pastoral agriculture upstream, and how these changed over time.

Models estimate that on-farm mitigations like fertiliser management and protecting waterways from livestock reduced the amount of phosphorus and sediment that reached our rivers between 1995 and 2015, but not nitrogen. While the mitigations were estimated to reduce nitrogen losses from individual farms, this was not enough to offset the effects of the expansion of dairy and intensification of pastoral agriculture, which resulted in an increase in the nitrogen that reached our rivers during this period.

Livestock urine is the dominant source of nitrate-nitrogen leaching. Leaching occurs because some of the additional nitrogen that can't be used by plants and microorganisms may leach (drain) from the soil.

Leached nitrate-nitrogen can enter groundwater and waterways, potentially causing ecological harm. The amount of nutrients leaching from the soil varies around the country because of differing land uses, climates, and soils.

Fertilisers are added to soil to improve soil fertility. Surplus nutrients that aren't absorbed by plants, such as phosphorus, can run-off into freshwater bodies such as streams, rivers, and lakes.

Research into soil physical properties suggests pasture irrigation can lead to soil compaction and less readily available water capacity, leading to increased nutrient leaching and run-off to waterways.[426] Erosion rates in Aotearoa are naturally high by international standards.[427]

Intensive agriculture and plantation forestry collectively contribute to a threat or extinction of Taonga species that are inextricably linked to tangata whenua as kin, via intergenerational

[425] Wynyard, 2016

[426] Drewry et al, 2022

[427] Basher, 2013

whakapapa links. The loss of these creatures is the loss of family members. The sad legacy of loss includes:

- 68% of indigenous freshwater birds, threatened with extinction or at risk of becoming threatened in 2021.
- Of these 19 birds, it's estimated that the populations of seven are decreasing,
- 76% of indigenous freshwater fish species were threatened with extinction or at risk of becoming threatened in 2017.
- Ten of 18 taonga freshwater fish and invertebrate species were too. We've lost the majority of our historic wetland area, with estimates that only around 10 percent remains.
- 45% of lake monitoring sites worsened between 2011 and 2020 (according to trophic level index (TLI) scores, a measure of ecosystem health based on nutrient and algae levels).
    - Models of TLI scores for all lakes larger than 1 hectare suggest 46% had poor or very poor health between 2016 and 2020. Only 2% rated good or very good.
- Models of *Campylobacter* infection risk estimated 45% of our country's total river length was not suitable for activities like swimming between 2016 and 2020.
- Native freshwater fish play an essential role in freshwater ecosystems, and many need to migrate to and from different areas and habitats to breed and feed. Some migratory species are threatened with extinction or at risk of becoming threatened – including taonga species like tuna and īnanga.

Within the kinship relationship Māori have with native fauna species, such as the birds, is cross species communication. Pūrākau (stories) are often associated with taonga species – for example, the matuku hūrepo (Australasian bittern) whose call was thought to help people through grief; pārera is a metaphor for greediness by its way of eating; and the whio (blue duck) named accordingly to the male's call: a whistle sound.

The bird calls of koitareke (marsh crake) and tarāpuka (black-billed gull) have been known to signal danger as warning signs of an oncoming attack, and the tūturiwhatu (banded dotterel) are written in songs as the only survivor of a cataclysmic disaster.[428]

The deteriorating state of some taonga species can impact the ability of tohu (signs) and mātauranga to be maintained and transmitted,[429]

[428] Keane-Tuala, 2015

[429] Taura, et al 2021

## Impact on Tangata Whenua

Mātauranga, Tikanga, Mahinga kai, and other aspects of te Ao Māori are impacted when fish are threatened, and habitats are degraded.

- Wai is essential for life. It sustains, cleanses, and refreshes our bodies and provides opportunities for recreation. Wai supports how we live. Freshwater appears in many forms, from tiny alpine streams and puna (springs) to large roto, repo, and the widest awa. It is also present but unseen in underground rivers and aquifers.
- In te ao Māori, the human and non-human worlds are indivisible. Different water bodies have different associated taonga species, and kaitiaki, that protect the mauri of the wai.[430]
- There is an intrinsic link between the health and wellbeing of wai and the health and wellbeing of communities.[431] When the mauri of the freshwater environment is negatively affected this can affect the cultural, spiritual, and physical wellbeing of communities. Mauri has been used by many scientists to describe state and sustainability of a particular environment and indicators have been created to assist this.[432]
- In te ao Māori there are many pūrākau (stories) about the origins of our freshwater systems, each with its own whakapapa (genealogy) to describe their relationships to these important waterways. Wainui-ātea is personified as the mighty waters and through her the other bodies of water are connected (Whaanga & Roa, 2021). After their separation, the soft mists of Papatūānuku rise to greet Ranginui, and Ranginui's tears took the visible form of rain and dew that fall from the sky to give life to the land.[433]
- This highlights the holistic connection of water in the atmosphere, in groundwater, and on land.

## Climate Change

Pressures from existing and intensifying land uses, and a changing climate, are contributing to spatial shifts in biodiversity and ecosystem function in New Zealand rivers.[434]

The immediate aftermath and initial recovery from a number of severe weather events, notably, Cyclone

[430] Stewart-Harawira, 2020

[431] Harmsworth & Awatere, 2013; Stewart-Harawira, 2020

[432] Morgan, 2006

[433] Salmond et al, 2019; Reed, 2021

[434] Mouton et al, 2022

Gabrielle hit isolated rural Māori communities harder than most, and recovery support for those communities was slower and less than non-Māori farming communities.

The effects of these events have made the combined pressures of climate change, land use, and human modifications to waterways more evident than ever before in regions such as Tairawhiti and East Cape.

The frequency of extreme weather events due to climate change is expected to increase. Droughts are predicted to increase in frequency in northern Aotearoa and heavy rainfall intensity is expected to increase over most regions of Aotearoa (IPCC, 2022). This will change the amount of water in our soils, and the storage, flows, mixing, and temperature of water in lakes, rivers, groundwater, and glaciers.

Increasing floods due to climate change may put pressure on freshwater ecosystems and the habitat ranges of species that are culturally important for many Māori[435].

Adding to that is diverting, controlling, and abstracting water from our waterways which alters the natural flow and resilience of waterways; ki uta ki tai – from mountains to the sea – and places pressure on species. Data suggests 48% of the country's river network is at least partially inaccessible to migratory fish – and the figure may be higher.

### Colonisation and Impacts

Human activities on land such as urban expansion, forestry, and agriculture, increase the amount of sediment entering freshwater environments (Larned, 2020; Basher, 2013). When excess sediment exceeds the natural erosion rate it can cause greater ecological, cultural, socio-economic and recreational harm.[436]

In Aotearoa, most phosphorus enters rivers attached to eroded sediment.[437]

Clear felling (the method used to harvest exotic forests in Aotearoa) exposes and disturbs soil, including from the construction of roads used for vehicle access during harvesting, which can increase erosion and the sediment loads to rivers and lakes.[438]

Agriculture accelerates soil degradation, erosion, and soil loss rates due to stock grazing on the land and treading on the soil, which can affect our waterways[439].

Some freshwater fish, invertebrate, plant, and algal species introduced to Aotearoa by humans, place pressures on our unique native species, ecosystems, and local economy (MPI,

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[435] Awatere et al, 2021; IPCC, 2022; Foley and Carbines, 2019

[436] Larned, 2020; Basher et al, 2011

[437] Elliot et al, 2005

[438] MfE & Stats NZ, 2019; Larned, 2020

[439] Donovan, 2022

nd; DOC, ndm). Historically, over 200 species of freshwater animals and plants have been introduced to Aotearoa, mostly deliberately. Illegal and accidental introductions still occur[440].

In 2020, 9 fish species, 1 reptile species, 11 invertebrate species, and 35 plant species were identified as non-indigenous species of greatest concern for freshwater environments in Aotearoa.[441] Introduced fish account for more than 80 percent of fish species recorded at 925 river sites from 1999 to 2018. These were most prevalent in parts of Otago and the central North Island[442].

**Flow Disruption and Fish Migration Barriers**

The first national assessment of river barriers in Aotearoa found that we have approximately one barrier per 6.25 kilometres of river length on average. This is high compared to international reporting (e.g., Belletti et al, 2020), though this may be due to inclusion of smaller barriers other studies often exclude.

Data suggests a minimum of 48 percent of Aotearoa New Zealand's river network is at least partially inaccessible to migratory fish, though a further 36 percent have not yet been assessed for barriers and could be potentially inaccessible[443].

Channelling rivers alters their natural character and can also erode riverbanks and increase the amount of sediment deposited downstream[444].

## Indigenous Indicators and Mātauranga Māori

Mauri is an indigenous concept of the state of te Taiao often characterised/reflected by 'local tribal areas', so it is not possible to understand the state of freshwater without also understanding the core values of the people who engage with it[445].

Decline in the mauri of wai can also include reduced habitat extent and species population, reduced river/stream flow, and poor condition of ecosystems and resources, such as mahinga kai and taonga species[446].

One of the greatest degradations of the Mauri of fresh water [sacrilege] comes as a result of the introduction of tutai - *E. coli*. Models estimate that 45 percent of Aotearoa New

[440] NIWA, 2020

[441] ibid

[442] MfE, 2020

[443] Franklin et al, 2022

[444] Maddock, 1999; Fuller et al, 2011

[445] Crow et al, 2018; Harmsworth et al, 2016; Tipa, 2009

[446] Harmsworth et al, 2016

Zealand's total river length was not suitable for activities like swimming between 2016 and 2020, based on having an average *Campylobacter* infection risk greater than 3 percent (corresponding to NOF bands D and E for *E. coli*,). For *E. coli*, 41 percent were worsening (increasing concentrations) between 2001 and 2020.

Sixty-eight percent of 364 groundwater monitoring sites failed to meet the Ministry of Health *E. coli* drinking water standard on at least one occasion between 2014 and 2018, indicating a risk to people if they consume water from these aquifers that has not been adequately treated.

For many Māori, the freshwater environment is central to tikanga, Mātauranga Māori, and Mahinga kai (traditional food gathering practices). For example, if rivers and lakes are contaminated, iwi and hapū can't gather kai and offer manaakitanga (helping people and hosting guests).

Mātauranga Māori of te Taiao is connected with the health of freshwater ecosystems and the abundance of taonga species. Some freshwaters in Aotearoa have been irreversibly degraded, impacting the connection and interaction with people[447].

Degraded ecosystems and the threatened loss of native species impacts the intrinsic connection and wellbeing many Māori have with te Taiao (the environment) and associated Mātauranga. This impacts mahinga kai practices and physical access to waterways[448].

The state of native taonga (treasured) species such as the longfin tuna and kōura impact the maintenance of values like mana (power, authority), Mātauranga, and whakaheke korero (passing knowledge to the next generation).[449]

The practice of gathering tuna is also connected to the observations of the Maramataka, and the loss of our taonga species and mahinga kai areas can impact the ability to transmit Mātauranga[450]. Maramataka is the traditional Māori way by which time was marked by observing the phases of the moon.

Mahinga kai is a cultural indicator of a healthy freshwater system.[451] Sustaining and accessing mahinga kai is closely linked to the state of freshwater and is an important indicator of the mauri of the waters, whenua, and people. These are all important for Māori in understanding the health of an ecosystem[452].

Some iwi and hapū monitor freshwater health using cultural indicators to observe and record changes. The cultural health index (CHI) is a tool for water quality that measures factors of cultural importance to Māori in the freshwater environment. The CHI is made up

[447] Stewart-Harawira, 2020

[448] Mike, 2021; Parsons et al, 2021

[449] Collier et al, 2017; Harmsworth & Awatere, 2013; Lyver et al, 2017a; Lyver et al 2017b; Lyver et al, 2021

[450] Mauri Compass, 2022

[451] Hikuroa et al, 2018; Tipa, 2009

[452] Tipa, 2009; Rainforth & Harmsworth, 2019

of three components: site status, mahinga kai status, and cultural stream health status (Tipa & Teirney, 2006; Stewart-Harawira, 2020). Each component is assessed separately by the iwi/hapū and then all three are combined to provide a cultural health measure.

In determining the state of our freshwater, it is important to acknowledge the whole catchment – ki uta ki tai. The whole catchment that is drained by a river must be examined, as an intact mauri depends on the status of all the interrelated components in the catchment. For example, the mauri of the wai diminishes as it moves downstream and increasingly comes into contact with human activities.[453]

The freshwater ecosystem health framework is a concept that recognises the holistic nature of freshwater ecosystems. It incorporates factors like biodiversity, the quality of habitats, and how well essential ecosystem processes are working. Understanding the overall health of freshwater ecosystems requires measures of five core components: aquatic life and biodiversity, habitats, water quantity and flows, ecological processes, and water quality[454].

**Wāhi tapu,** such as repo, have many benefits, though these benefits have been reduced by reductions in their extent and condition.

Repo (wetlands) are wāhi tapu. If repo continue to be lost, cultural indicators that have been founded on generations of Mātauranga Māori, such as those relating to kōwhitiwhiti (watercress), kuta (giant spike sedge), and harakeke, will also be lost, along with the ability to interact with these places[455].

Repo provide many benefits, such as storing carbon, regulating water flow during storms, and purifying water through filtering out nutrients and sediments[456]. The extent and condition of repo habitats and ecosystems, therefore, impact these important processes.

Healthy waterways are important for ahikāroa, whānaungatanga, and kaitiakitanga[457]. When wai (water) is healthy and strong it can be used for healing and life giving. But if the wai is depleted or absent it can negatively impact tikanga[458]. The pollution, degradation, and diversion of freshwater systems impacts the mauri of each water body[459].

The protection of taonga species that are important to the practice of mahinga kai therefore also contributes to protecting and maintaining te reo Māori, tikanga, and Mātauranga Māori[460].

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[453] Tipa, 2009

[454] Clapcott et al, 2018

[455] Taura et al, 2021

[456] Clarkson et al, 2013; Schallenberg et al, 2013

[457] Morgan, 2006

[458] Ngata, 2018

[459] Hikuroa et al, 2018; Stewart-Harawira 2020

[460] Harmsworth & Awatere 2013; Parsons et al, 2021; Rainforth & Harmsworth, 2019

The threatened status of taonga species and ecosystems, as well as the reduced quality and quantity of rongoā materials available, impacts important healing practices associated with rongoā[461].

Abstractions altering the flow of waterways can adversely impact the mauri of rivers by changing the connections from the mountains to the sea and disrupting the spiritual connection between iwi and the awa[462].

### Mahinga Kai Sites

Mahinga kai can be described as traditional Māori food gathering practices and food gathering sites. Mahinga kai includes the ability to access food resources, food gathering sites, the gathering and use of food, and abundance and health of species[463]. Mahinga kai is one of the main ways to protect and develop sustainable relationships with freshwater bodies[464].

Mahinga kai species are gathered from freshwater environments, including tuna, īnanga, kākahi (freshwater mussels), kōura and wātakirihi.

These are impacted by habitat loss and destruction which causes a loss of ability to collect kai and fish[465] and compromises the cultural use of species[466].

More than simply gathering kai, the ability to collect these resources affects the mana of an iwi or hapū, as they contribute to their capacity for manaakitanga – offering food from their whenua and wai to invited guests, is an important part of hospitality[467].

Decreased or altered flows can also affect the availability of traditional and customary resources and access to mahinga kai areas. The cultural health and wellbeing of a site can therefore be deeply affected by changed flows[468]. Altered flows and accumulation of sediment alter the condition of the awa, putting pressure on mahinga kai species availability[469].

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[461] Mark et al, 2022

[462] Young et al, 2004; Jones & Hickford, 2019

[463] Panelli & Tipa 2009

[464] Awatere et al, 2018

[465] Collier et al, 2017

[466] Noble et al, 2016; McDowall, 2011

[467] Rainforth & Harmsworth, 2019

[468] Tipa, 2009

[469] Hikuroa et al, 2018

### Science Validates Mātauranga Māori.

Everything within an ecosystem for Māori is interconnected. Māori – using intergenerational observations and cultural icon indicators can assess when micro impacts are emerging in river systems and fresh water. Impacts at a micro level have macro impacts within an integrated system. Macroinvertebrates play a central role in stream ecosystems by feeding on periphyton (algae), dead leaves, and wood, or on each other. In turn, they are an important food source for fish and birds.

Science research validates what Māori have observed. The macroinvertebrate community index (MCI) is a measure of the abundance and diversity of macroinvertebrates and is an indicator of overall river health. A high MCI score indicates a high level of river health, with more impacted rivers having low MCI scores.

55% of Aotearoa New Zealand's river length had modelled MCI scores indicative of conditions with moderate or severe impairment (NOF bands C and D). The average proportion of human modified land cover in the upstream catchment area of monitored sites increased with decreasing MCI scores. For MCI, trends at 56 percent of river monitoring sites were worsening, between 2001 and 2020.

Trophic level index (TLI) is a lake water quality measure that is an indicator of ecosystem health and is a combined measure of chlorophyll-a (algae), and the nutrients nitrogen and phosphorus. For TLI, 45 percent were worsening between 2011 and 2020.

Nineteen percent of 433 groundwater monitoring sites failed to meet the nitrate-nitrogen drinking water standards on at least one occasion between 2014 and 2018, based on having concentrations above the maximum acceptable value of 11.3 g/m3 set by the Ministry of Health[470].

All of these trends and pollution have a severe impact on fresh water Taonga species. In 2017, 76 percent of known indigenous freshwater fish species (39 of 51) were threatened with extinction or at risk of becoming threatened. Estimated population trends show 63 percent of freshwater fish species have a decreasing population trend.

[470] Ministry of Health, 2018

The longfin tuna [critically important within the whakapapa of Māori] is classified as at risk of becoming threatened with extinction and have a declining population trend[471].

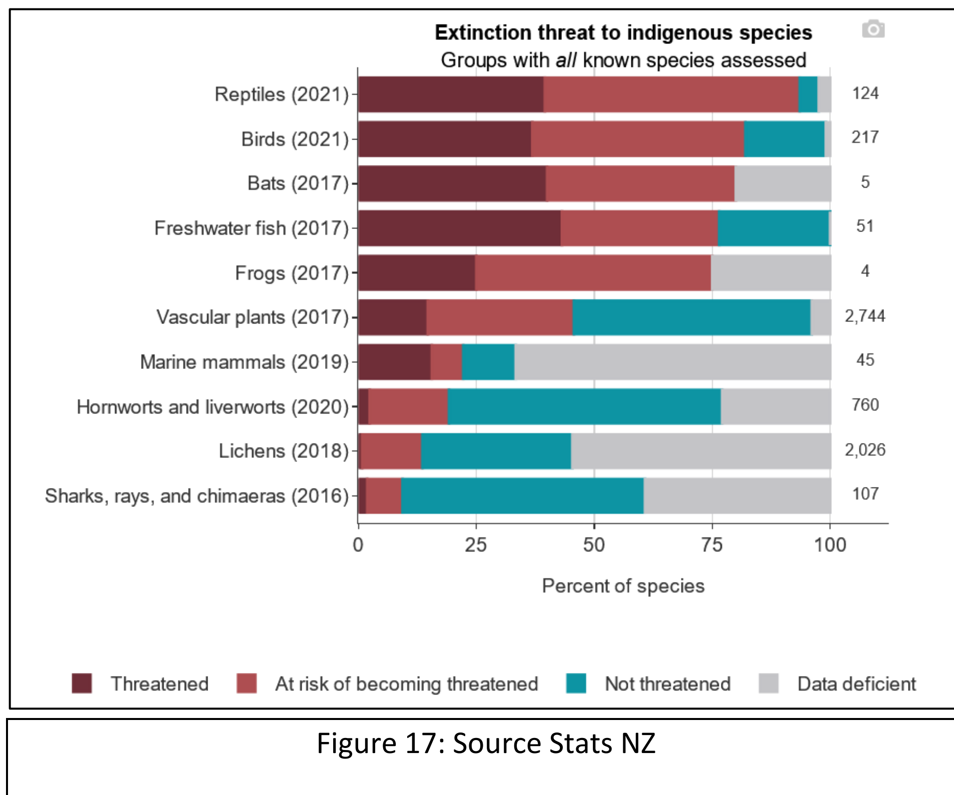


Figure 17: Source Stats NZ

Īnanga [also critical to Māori] are classified as at risk of becoming threatened with extinction and have a declining population trend[472]. Īnanga are predominantly observed near the coast and around marae and Māori residential settlements.

## Summary

Over the last 180 years [of colonisation] an untenable legacy of Taonga species extinction has evolved across the whole of Aotearoa driven by colonial land use and extractive or exploitative practices. Most of the intensive agriculture has occurred on confiscated whenua. The data provided below shows the stark reality of colonisation impacts on indigenous flora and fauna in graphic detail.

[471] Dunn et al, 2018

[472] Ibid

In addition, half of our fresh water Taonga species are declining [in red below].

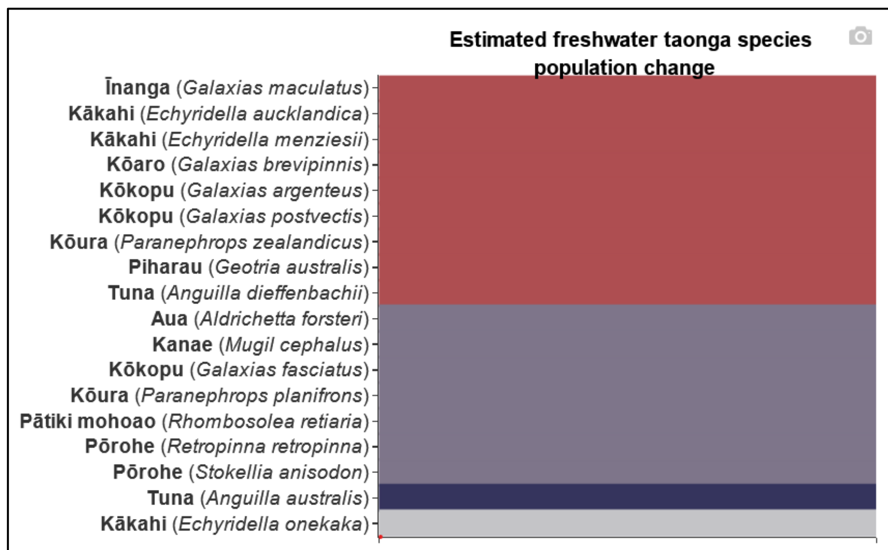


Figure 18: Source Stats NZ

The impact colonisation and intensive primary production [including forestry] has had on our marine Taonga species is catastrophic.

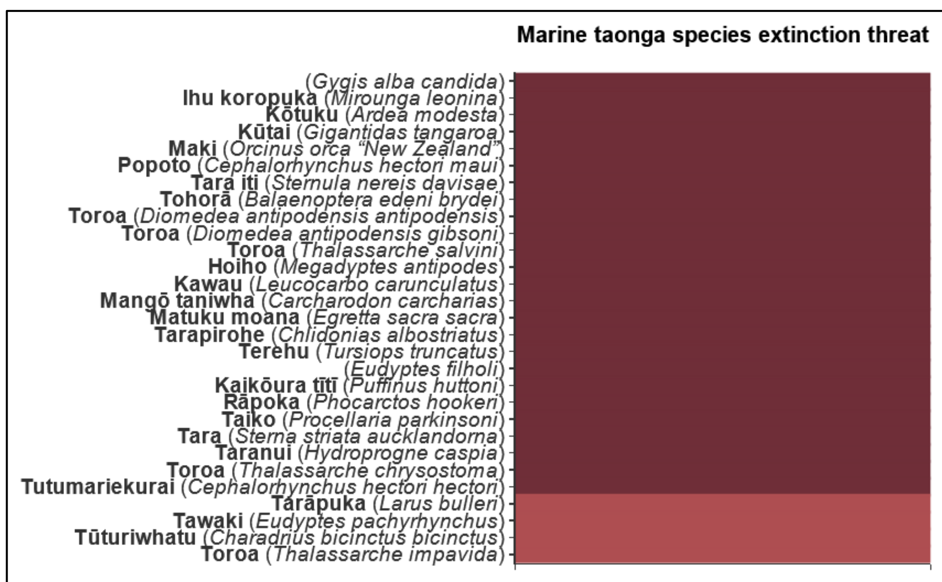


Figure 19: Source Stats NZ

The species identified in the graphs above are all kin to Māori, via their whakapapa connection to Tane. The impact these extinctions and threats have on tangata whenua is measured in cultural identity disruption and their connection to natural eco-systems services.

This data irrefutably strips the primary production sector of its cultural licence to operate and indelibly underscores the need for a return back to a te Ao Māori Primary Production [TAMPP] model, which in the 1850s out matched the colonial farming practises in all ecological, production and revenue generating indices - whilst maintaining essential mana tiaki [guardianship] principles.

That model proved so successful that colonial oppression, genocide and land confiscation was used against the indigenous people of Aotearoa, to ensure its demise. Since then, the dominant culture's industrial agriculture farming model has decimated social, environmental, and cultural values in pursuit of individual wealth creation.

The TAMPP model, developed by Māori within only 15 years of first colonial contact during the "Golden Years" of Māori development, was, and can be again, the most advanced ecologically resilient and sustainable primary production system in the world.

## Earth System Boundaries [ESB]- Ripa Tauārai.

"Kua eke nei tātou ki te ripa tauārai o te ora, o te mate rānei o Papatūānuku." - *We have reached the threshold of whether the Earth will live or die.*

A recent study, which was published in Nature on May 2023 is the most ambitious attempt yet to combine vital signs of planetary health with indicators of human welfare. Earth's health is failing in key measures, say scientists. This ground-breaking analysis of safety and justice hopes to inform next the generation of sustainability policy. Human activity has pushed the world into the danger zone in seven out of eight newly demarcated indicators of planetary safety and justice, impacting the Earth's wellbeing.

Going beyond climate disruption, the report by the Earth Commission group of scientists presents disturbing evidence that our planet faces growing crises of water availability, nutrient loading, ecosystem maintenance and aerosol pollution. These pose threats to the stability of life-support systems and worsen social equality.

Prof Johan Rockström, one of the lead authors, said: "It is an attempt to do an interdisciplinary science assessment of the entire people-planet system, which is something we must do given the risks we face.

For Māori the message and the solution is simple.

If the te Ao Māori primary production model developed by them in the mid 1800s had been allowed to flourish, and the underlying principles had formed the foundation for modern agriculture, the challenges being faced today would not have eventuated. Indigeneity gives both agency and voice to the natural living world.

Indigeneity encompasses the unique cultural, spiritual, and ecological relationships that Indigenous peoples have with the natural living world. Central to Indigenous worldviews is

the recognition of the interconnectedness and interdependence of all living beings, including humans, animals, plants, and the environment. This holistic perspective grants agency and voice to the natural living world.

### Manaakitia, whakaorangia e.

*"Listen to voices of the Natural living World, to the Sky God, to Mother Earth the Parents who made this world of Light look after them, care for them, give them life."*

Indigenous spirituality often involves rituals, ceremonies, and practices that honour and connect with the natural world. These spiritual traditions recognize the inherent spirituality and agency of the natural living world. Through ceremonies and rituals, Indigenous peoples express their gratitude, seek guidance, and establish a harmonious relationship with the environment. This spiritual connection reinforces the agency and voice of nature.

Globally there is a growing call to look beyond the current focus on climate change in addressing emerging challenges, to include other indices and environmental justice. For Māori, the key element missing is the recognition of the personhood status and health of Papatūānuku – Mother Earth. Joyeeta Gupta[473], the Earth Commission co-chair and professor of environment and development in the global south at the University of Amsterdam, has said recently; "We have reached what I call a saturation point where we hit the ceiling of the biophysical capacity of the Earth system to remain in its stable state.

We are approaching tipping points; we are seeing more and more permanent damage of life-support systems at the global scale." The stability and resilience of the Earth system and human well-being are inseparably linked[474] yet their interdependencies are generally under-recognized; consequently, they are often treated independently. However - many Indigenous cultures view the land as a living entity with its own consciousness, rights, and agency. Rather than perceiving the land and natural resources as mere commodities, Indigenous peoples understand them as living beings deserving of respect and care. This recognition of the agency and voice of the land allows for a more balanced and sustainable relationship between humans and nature.

[473] Rockström, J., Gupta, J., Qin, D. et al. Safe and just Earth system boundaries. Nature (2023). https://doi.org/10.1038/s41586-023-06083-8

[474] Johan Rockström1,2,3

## The Earth System Boundaries Study

The **Earth System Boundaries** (ESBs) study[475] sets out a series of "safe and just" benchmarks for the planet that can be compared to the vital signs for the human body. Instead of pulse, temperature, and blood pressure, it looks at indicators such as water flow, phosphorus use and land conversion.

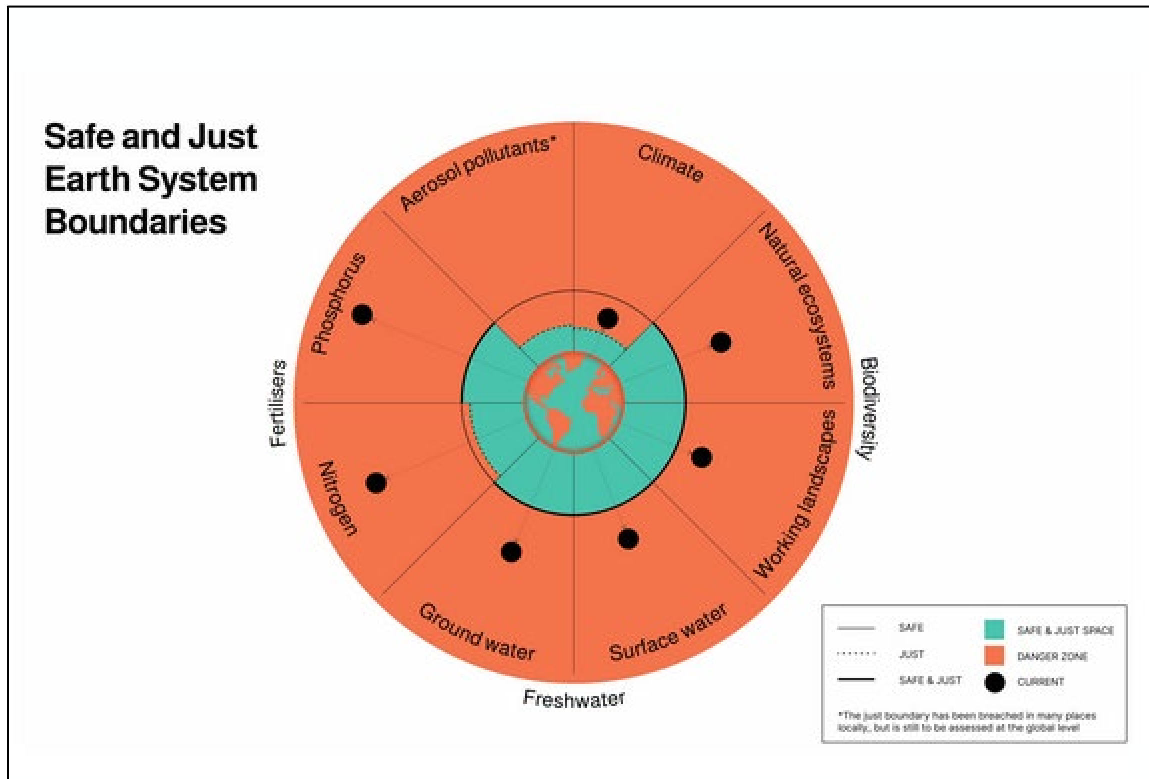


Figure 20[476]

The boundaries are based on a synthesis of previous studies by universities and UN science groups, such as the Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

The situation is grave in almost every category.

The stability and resilience of the Earth system and human well-being are inseparably linked, yet their interdependencies are generally under-recognized; consequently, they are often treated independently. Here, the scientists used modelling and literature assessment to quantify safe and just ESBs for climate, the biosphere, water and nutrient cycles, and aerosols at global and sub-global scales.

They propose ESBs for maintaining the resilience and stability of the Earth system (safe ESBs) and minimizing exposure to significant harm to humans from Earth systems change (a

[475] https://www.theguardian.com/environment/2023/may/31/earth-health-failing-in-seven-out-of-eight-key-measures-say-scientists-earth-commission

[476] https://globalcommonsalliance.org/news/earth-commission/safe-and-just-earth-system-boundaries-published-in-nature/

necessary but not sufficient condition for justice). The stricter of the safe or just boundaries sets the integrated safe and just ESB. The findings show that justice considerations constrain the integrated ESBs more than safety considerations for climate and atmospheric aerosol loading. Seven of eight globally quantified safe and just ESBs and at least two regional safe and just ESBs in over half of global land area are already exceeded.

They propose that the assessment provides a quantitative foundation for safeguarding the global commons for all people now and into the future for Humanity is well the Anthropocene, the proposed new geological epoch where human pressures have put the Earth system on a trajectory moving rapidly away from the stable Holocene state of the past 12,000 years, which is the only state of the Earth system we have evidence of being able to support the world as we know it. These rapid changes to the Earth system undermine critical life-support systems, with significant societal impacts already felt, and they could lead to triggering tipping points that irreversibly destabilize the Earth system.

These changes are mostly driven by social and economic systems run on unsustainable resource extraction and consumption. Contributions to Earth system change and the consequences of its impacts vary greatly among social groups and countries. Given these interdependencies between inclusive human development and a stable and resilient Earth system, an assessment of what is safe and just is required.

### A Just Transition

A just transition in agriculture refers to frameworks and approaches aimed at restructuring food systems based on principles of justice, sustainability, and equity. It involves transforming the way food is produced, distributed, and consumed to address social, economic, and environmental challenges. Some key elements and concepts associated with a just transition in agriculture are:

**Sustainable agricultural practices:**

A just transition emphasises the adoption of sustainable agricultural practices that minimize environmental harm, promote biodiversity, and protect natural resources. This includes agroecology, organic farming, permaculture, and regenerative agriculture, which prioritize soil health, biodiversity, and resilience.

**Fair and equitable labour conditions:**

A just transition recognizes the importance of fair and equitable labour conditions for farmers, agricultural workers, and food system participants. It advocates for decent wages, safe working conditions, access to social protection, and the empowerment of marginalised groups, including women and indigenous communities.

**Food sovereignty and local food systems:**

Food sovereignty is the right of communities to determine their own food and agricultural systems, including production, distribution, and consumption. A just transition supports the development of local food systems that prioritize community control, diversified production, short supply chains, and the preservation of traditional knowledge and practices.

**Resilience and adaptation:**

A just transition acknowledges the need to build resilient agricultural systems capable of adapting to the impacts of climate change. This involves promoting climate-smart agriculture, diversifying crops, enhancing water management, and investing in research and innovation to develop climate-resilient farming methods.

**Access to nutritious and culturally appropriate food:**

A just transition aims to ensure equitable access to nutritious and culturally appropriate food for all, addressing issues of food security, malnutrition, and food waste. It encourages sustainable food production and consumption patterns that prioritize local and seasonal foods, reduce food waste, and support small-scale farmers.

**Redistribution of resources and power:**

A key aspect of a just transition is addressing existing power imbalances in the food system. This includes challenging corporate control, promoting land reform and redistribution, supporting small-scale farmers and indigenous communities, and fostering participatory decision-making processes that give voice to marginalised groups.

**Collaboration and knowledge sharing:**

A just transition requires collaboration and knowledge sharing among stakeholders at various levels, including farmers, policymakers, researchers, civil society organizations, and consumers. This promotes learning, innovation, and the exchange of best practices to advance sustainable and equitable food systems.

Overall, a just transition in agriculture seeks to create a more equitable, sustainable, and resilient food system that respects the rights and needs of all stakeholders, including small-scale farmers, marginalised communities, and future generations. It is a holistic approach that recognizes the interconnections between social justice, environmental sustainability, and food security.

### Current Injustice

The need for a transition in agriculture, similar to the transition in energy systems, is deeply connected to injustice**.** Here are some ways in which the agricultural sector and the call for a transition are intertwined with issues of injustice:

**Environmental injustice:**

Current agricultural practices, particularly industrialized and intensive farming methods, often contribute to environmental degradation, including soil erosion, water pollution, deforestation, and greenhouse gas emissions. These practices disproportionately impact marginalised communities, including indigenous peoples and low-income rural populations, who often bear the brunt of environmental pollution and the loss of natural resources essential for their livelihoods.

**Land and resource inequality:**

In many regions, there are significant disparities in land ownership and resource access. Large-scale industrial agriculture, driven by corporate interests, has led to the concentration of land in the hands of a few, while small-scale farmers and marginalised communities struggle to access and control land for sustainable and equitable food production. This perpetuates social and economic inequalities.

**Exploitation of agricultural workers:**

The agricultural sector often relies on the labour of vulnerable and marginalised workers, such as migrant workers, women, and people from low-income backgrounds. These workers frequently face poor working conditions, low wages, and limited social protections. Exploitative labour practices in agriculture are a form of social injustice that needs to be addressed.

**Food insecurity and malnutrition:**

While the world produces enough food to feed everyone, there are still significant issues of food insecurity and malnutrition. Injustice in the food system manifests in unequal access to nutritious and affordable food, with marginalised communities facing higher rates of hunger, malnutrition, and diet-related diseases. This is often linked to unequal distribution of resources and power in the agricultural value chain.

**Disruption of traditional and indigenous knowledge:**

Modern agricultural practices and the consolidation of corporate control have marginalised and eroded traditional and indigenous knowledge systems related to agriculture. These knowledge systems often contain valuable insights into sustainable farming practices, biodiversity conservation, and climate adaptation. Their exclusion is a form of cultural and epistemic injustice.

**Global trade and market dynamics:**

The global agricultural trade system often perpetuates injustice, with unequal power dynamics and unfair trade practices favouring wealthier nations and large agribusinesses. Subsidies and trade barriers can hinder small-scale farmers from lower-income countries, contributing to their economic vulnerability and reinforcing dependency on volatile global commodity markets.

Addressing these injustices requires a just transition in agriculture that promotes sustainable and equitable food systems. This includes supporting agroecological farming methods, empowering small-scale farmers, ensuring fair working conditions, promoting land reform and resource redistribution, fostering local food systems, and engaging in fair trade practices. The transition must prioritize environmental sustainability, social equity, and food security for all.

## Interlinked Challenges

Climate damage, animal cruelty, and social injustice are all driven by the narrow cost-efficiency focus of industrial agriculture. Transforming our food system with respect for people, animals, and the environment will require a transition rooted in justice. Some of the key principles of that are:

**Food sovereignty and democratic participation:**

The principle of food sovereignty emphasises the right of communities to control their own food systems, including decisions about production, distribution, and consumption. It involves empowering small-scale farmers, indigenous communities, and marginalised groups, and promoting participatory decision-making processes that ensure their voices are heard.

**Sustainability and regenerative practices:**

A just food system focuses on sustainability and regenerative practices that promote ecological health and resilience. This includes adopting agroecological approaches, regenerative agriculture, organic farming, and permaculture, which prioritize soil health, biodiversity conservation, and the protection of ecosystems.

**Social equity and fairness:**

Justice in the food system requires addressing social inequities and ensuring fair treatment for all stakeholders. This includes fair wages and labour conditions for agricultural workers, eliminating discrimination and exploitation, and promoting social and economic equity throughout the supply chain. It also involves recognizing and valuing the traditional knowledge and practices of indigenous peoples and local communities.

**Animal welfare and rights:**

A just food system takes into account the ethical treatment of animals and promotes animal welfare and rights. It encourages practices that minimize animal suffering, such as providing adequate living conditions, access to pasture, and humane slaughter methods. It also encourages a shift towards plant-based and alternative protein sources to reduce reliance on intensive animal agriculture.

**Health and nutrition:**

A just food system prioritizes human health and nutrition by ensuring access to safe, nutritious, and culturally appropriate food for all. It supports sustainable farming practices that minimize the use of harmful pesticides, antibiotics, and synthetic fertilizers. It also promotes diverse and balanced diets, reduces food waste, and addresses food-related diseases and inequalities in access to healthy food.

**Local and fair trade:**

Promoting local food systems and fair trade practices is another key principle. This involves supporting small-scale farmers and local food producers, shortening supply chains, and reducing dependency on global commodity markets. It emphasises fair prices, equitable trade relationships, and transparent labelling to enable consumers to make informed choices.

**Knowledge sharing and research:**

A just food system encourages knowledge sharing, research, and innovation to develop and disseminate sustainable farming practices. It involves supporting participatory research that involves farmers, indigenous communities, and local knowledge holders. It also emphasises the importance of accessible and evidence-based information for all stakeholders.

**Poverty** is another global problem.  Mechanization and vertical integration of industrial agriculture have hollowed out once-thriving farming communities by diminishing employment opportunities and decreasing patronage of local businesses. Just transition will require strengthening local land tenure rights to prevent land and resource grabs and their devastating social consequences.

By embracing these principles, the transformation of our food system can address the interlinked challenges of climate change, animal cruelty, and social injustice. It requires collaboration among diverse stakeholders, including farmers, consumers, policymakers, researchers, and civil society organizations, to create a more just, sustainable, and resilient food system.

## Key Transition Goals

A just transition for the agricultural sector should incorporate:

**Indigenous rights:**

Recognising and respecting the rights of indigenous communities and their traditional knowledge and practices related to agriculture. This involves supporting indigenous land rights, protecting biodiversity and cultural heritage, and fostering collaboration with indigenous peoples.

**Sustainable agriculture:**

Shifting towards sustainable agricultural practices that prioritize soil health, biodiversity conservation, and ecosystem resilience. This includes adopting agroecological, regenerative, and organic farming methods.

Figure 21[477]

**Climate resilience:**

Building resilience to the impacts of climate change through climate-smart agriculture, including practices that enhance water management, soil conservation, and crop diversification.

**Food sovereignty:**

Promoting the rights of communities to control their own food systems, including production, distribution, and consumption decisions. This involves supporting small-scale farmers, indigenous communities, and local food systems.

**Social equity:**

Addressing social inequalities within the agricultural sector by ensuring fair and equitable access to resources, opportunities, and benefits. This includes fair wages and labour conditions for agricultural workers, gender equality, and the empowerment of marginalised groups.

**Food security and nutrition:** Ensuring access to safe, nutritious, and culturally appropriate food for all. This includes addressing food insecurity, malnutrition, and diet-related diseases, and promoting diverse and balanced diets.

**Environmental conservation:**

Protecting and restoring ecosystems, conserving biodiversity, and reducing environmental pollution and degradation associated with agricultural practices. This includes responsible water management, minimizing chemical inputs, and protecting natural habitats.

**Local and fair trade:**

Promoting local food systems, shortening supply chains, and supporting fair trade practices. This involves strengthening connections between producers and consumers, supporting small-scale farmers, and ensuring fair prices and equitable trade relationships.

**Knowledge sharing and innovation:**

Encouraging research, innovation, and knowledge sharing to develop sustainable farming practices and disseminate information to farmers, communities, and policymakers. This

[477] Sourced from https://www.culturalsurvival.org/publications/cultural-survival-quarterly/what-do-sustainable-development-goals-mean-indigenous

includes supporting participatory research and integrating traditional and indigenous knowledge.

**Health and well-being:** Promoting the health and well-being of farmers, agricultural workers, and consumers. This includes reducing exposure to harmful chemicals, ensuring safe and healthy working conditions, and addressing occupational hazards in agriculture.

These goals are interconnected and aim to transform the agricultural sector into a more just, sustainable, and resilient system that respects the environment, supports livelihoods, and ensures equitable access to food and resources.

## The Imperative.

A just transition in our societal and economic systems is not only possible but imperative for securing the prosperity and liveability of our planet for future generations. While the challenges are significant, a just transition is possible with collective action, political will, and international cooperation. It requires systemic changes in our economic, energy, and agricultural systems, as well as transformative policies, investments, and behavioural shifts. By pursuing a just transition, we can secure a prosperous and liveable planet for future generations, mitigate the worst impacts of climate change, and create a more equitable and sustainable world. However, time is of the essence, as delaying action further narrows our chances of limiting the catastrophic effects of climate change.

To achieve this the following considerations are critical:

**Climate crisis and urgency:**

The world is facing an urgent climate crisis. The continued emission of greenhouse gases from human activities has led to significant global warming, resulting in severe consequences such as extreme weather events, rising sea levels, biodiversity loss, and disruptions to ecosystems. The window of opportunity to limit the extent of anthropogenic warming is rapidly closing.

Without decisive action, the impacts of climate change will intensify, leading to widespread disruptions in food systems, economies, and societies globally.

## Interconnected challenges

Climate change is intricately connected to various social, economic, and environmental challenges. The agriculture sector, for instance, is particularly vulnerable to climate impacts, including changes in rainfall patterns, temperature extremes, and increased pest pressure. These changes disrupt food production, threaten livelihoods, and exacerbate food insecurity. A just transition in agriculture is crucial to mitigate these risks, ensure food security, and protect the well-being of communities.

**Environmental justice:**

The impacts of climate change disproportionately affect vulnerable and marginalised communities, exacerbating existing social inequalities. Low-income nations, indigenous peoples, and future generations are the most vulnerable to the adverse consequences of climate change, despite contributing the least to the problem. A just transition is essential to address these injustices, empower marginalised communities, and ensure that the burdens and benefits of climate action are equitably shared.

**Sustainable development and economic opportunities:**

A just transition presents an opportunity for sustainable development, creating new economic opportunities and green jobs. Shifting towards renewable energy, sustainable agriculture, and other low-carbon industries can stimulate economic growth, improve energy access, and reduce dependency on finite resources. It can foster innovation, promote social well-being, and build more resilient communities.

**Moral and ethical imperative:**

Transitioning to a just and sustainable future is a moral and ethical imperative. As stewards of the planet, we have a responsibility to protect and preserve it for future generations. A failure to act on climate change would undermine the well-being and prospects of our children and grandchildren, perpetuating social injustice and environmental degradation.

**Socio-economic Impacts on Māori**

Lower-income rural Māori regions are expected to be the hardest hit by climate change due to a combination of factors, including:

**Limited resources and infrastructure:**

Many lower-income nations lack the necessary financial and technological resources to adapt to and mitigate the impacts of climate change. They often have weak infrastructure, limited access to clean energy, and inadequate healthcare and education systems. This makes them more vulnerable to the adverse effects of climate change.

**Dependence on climate-sensitive sectors:**

Lower-income nations often rely heavily on climate-sensitive sectors such as agriculture, forestry, and fisheries for their economic well-being. Climate change can disrupt these sectors through extreme weather events, changing rainfall patterns, and rising temperatures, leading to decreased productivity, food insecurity, and economic instability.

**Geographical vulnerabilities:**

Many lower-income nations in the Global South are geographically vulnerable to climate change impacts. For example, small island states are at risk of sea-level rise and increased frequency of extreme weather events. Coastal regions and areas prone to droughts, floods, and tropical cyclones are also particularly susceptible to climate-related disasters.

**Inequality and social vulnerability:**

The legacies of colonialism and neo-colonialism have perpetuated social and economic inequalities in many lower-income nations. This includes unequal access to resources, power, and decision-making processes, which exacerbates the vulnerability of marginalised communities.

Clearly - climate change deepens these inequalities, as the most disadvantaged populations bear the brunt of its impacts.

This is impacted by:

**Limited voice in global decision-making:**

Lower-income nations often have limited representation and influence in global climate negotiations and decision-making processes. This makes it challenging for them to advocate for their specific needs and priorities, resulting in insufficient support for adaptation and mitigation efforts.

**Debt and financial burdens:**

Many lower-income nations in the Global South are burdened with significant external debt, often stemming from historical and ongoing exploitation. This debt constrains their ability to invest in climate resilience and sustainable development, further exacerbating their vulnerability to climate change impacts.

Addressing the disproportionate impact of climate change on lower-income nations requires international cooperation, financial assistance, technology transfer, and a commitment to rectifying historical injustices. Efforts should focus on supporting adaptation measures, promoting sustainable development, and ensuring equitable access to resources and decision-making processes.

## A Te Ao Māori Transition Model

Evaluating traditional Māori primary production systems in Aotearoa in the mid-1800s can provide valuable insights and inspiration for transitioning our food system to ensure justice and sustainability. The principles and practices embedded in traditional Māori agriculture can offer lessons for creating a more equitable and sustainable food system.

Some key aspects to consider are:

**Relationship with the land:**

Traditional Māori agricultural practices were deeply rooted in a reciprocal relationship with the whenua and natural resources. The concept of Kaitiakitanga emphasised sustainable land management, preserving biodiversity, and respecting the interconnectedness of

ecosystems. Incorporating this holistic perspective can help foster a more sustainable and respectful approach to land use in our food system.

**Regenerative practices:**

Traditional Māori agriculture emphasised regenerative practices that nurtured the soil and promoted long-term fertility. Techniques such as the cultivation of kūmara using mounds and composting, intercropping with complementary plants, and utilising fish and seaweed fertilisers demonstrated an understanding of ecological processes. Incorporating regenerative practices can improve soil health, increase resilience, and reduce the need for chemical inputs in modern agriculture.

**Local and community-based systems:**

Traditional Māori agriculture was predominantly localized and community-based, with hapū and whānau collectively managing and sharing resources. This approach fostered social cohesion, ensured food security, and reduced dependency on external sources. Promoting local food systems and community-led initiatives in our modern food system can enhance resilience, strengthen social ties, and empower marginalised communities.

Intergenerational knowledge transfer: Traditional Māori agricultural knowledge was passed down through generations, maintaining a strong connection to ancestral wisdom and practices. Recognizing the value of indigenous knowledge systems and incorporating them into modern agricultural practices can promote sustainability and ensure the preservation of cultural heritage.

Kākā population recovery can only be achieved through protecting and enhancing biodiversity[478]

**Respect for biodiversity and native species:**

Traditional Māori agriculture valued the diversity of native plants and animals. The cultivation of heirloom crops, the protection of indigenous ecosystems, and the sustainable harvesting of resources reflected a respect for biodiversity and the importance of maintaining ecological balance. Incorporating native species and promoting agroecology can enhance biodiversity, protect endangered species, and restore ecosystem functions in our food system.

**Equity and reciprocity:**

Traditional Māori agriculture embraced principles of equity, reciprocity, and collective responsibility. Practices such as the redistribution of resources and the sharing of food highlighted the importance of ensuring fair access to resources and addressing social

[478] Photo by Tomas Sobekon https://unsplash.com/photos/

inequalities. Incorporating these principles into our food system can help promote social justice, reduce food disparities, and empower marginalised communities.

By drawing inspiration from traditional Māori agricultural practices and integrating them with modern scientific knowledge and technology, we can transition our food system to align with principles of justice and sustainability. It requires recognizing and respecting indigenous knowledge, fostering community engagement, promoting regenerative practices, and valuing the reciprocal relationship between humans and the environment. Embracing these principles can contribute to a more resilient, equitable, and sustainable food system for current and future generations.

The pathways of this future are rooted in the past.

### Global Climate Impacts

By late this century, according to a study published in May 2023 in the journal Nature Sustainability[479], 3 to 6 billion people, or between a third and a half of humanity, could be trapped outside of that zone, facing extreme heat, food scarcity and higher death rates, unless emissions are sharply curtailed, or mass migration is accommodated.

A climate niche refers to the specific range of environmental conditions (temperature, rainfall, humidity, etc.) in which a particular species or ecosystem can thrive and reproduce. It defines the suitable habitat and ecological requirements for the survival and growth of various organisms.

When it comes to humans, the concept of a climate niche can be applied to understanding the regions or areas where human populations have adapted to live based on the local climate conditions. Different regions have different climate niches, and human settlements have developed over time in response to the local environmental factors.

The Institutes involved in the most recent study include the following:

- Global Systems Institute, University of Exeter, Exeter, UK.
- School of Life Sciences, Nanjing University, Nanjing, China.
- Potsdam Institute for Climate Impact Research, Potsdam, Germany.
- International Institute for Applied Systems Analysis, Laxenburg, Austria.
- Centre for Health and the Global Environment, University of Washington, Seattle, WA, USA.
- Department of Applied Ecology, North Carolina State University, Raleigh, NC, USA.
- Centre for Biodiversity Dynamics in a Changing World (BIOCHANGE)
- Section for Ecoinformatics and Biodiversity, Department of Biology, Aarhus University, Aarhus, Denmark.
- Wageningen University, Wageningen, The Netherlands.

[479] https://doi.org/10.1038/s41893-023-01132-6

Timothy Lenton, one of the study's lead authors and the director of the Global Systems Institute at the University of Exeter in the U.K., stated, "There are clear, profound ethical consequences in the numbers. If we can't level with that injustice and be honest about it, then we'll never progress the international action on this issue."[480]

Climate research often frames the implications of global warming in terms of its economic impacts, couching damages in monetary terms that are sometimes used to suggest that small increases in average temperature can be managed. This study disavows this traditional economic framework, which Lenton says is "unethical" because it prioritises rich people who are alive today, and instead puts the climate crisis in moral terms.

By reframing the climate crisis in moral terms and challenging the traditional economic framework, we can foster a greater sense of responsibility and urgency in addressing the pressing challenges we face. A reframing of the climate crisis in moral terms requires a shift in perspective and values.

A better way to approach this follows:

1. Acknowledge the flaws in the traditional economic framework:
    a. The traditional economic framework often prioritises short-term gains, accumulation of wealth, and GDP growth without sufficiently considering the long-term consequences and ethical implications. Recognise that this approach may perpetuate inequality and prioritise the interests of the affluent few over the well-being of the planet and future generations.

2. Emphasise intergenerational justice:
    a. Highlight the moral imperative of addressing the climate crisis by considering the impact of current actions on future generations. Emphasise the principle of intergenerational equity, which advances that we have a responsibility to leave behind a liveable planet for future inhabitants. By framing the climate crisis as an issue of justice and fairness to future generations, we prioritize the long-term sustainability of the planet over short-term gains for a privileged few.

3. Promote environmental stewardship:
    a. Encourage a values-based approach that emphasises the importance of protecting and preserving the natural environment. Highlight the intrinsic value of nature and the interconnectedness of all living beings. Emphasise the responsibility we have as stewards of the Earth to ensure its well-being and to mitigate the harm caused by human activities, including the emission of greenhouse gases.

4. Consider the ethical dimensions of climate change:

[480] https://www.ecowatch.com/human-climate-niche-displacement-global-warming.html

    a. Discuss the ethical implications of climate change, such as the disproportionate impact it has on vulnerable communities, both within and across nations. Highlight the need for climate justice, where those who contribute the least to the crisis are often the most affected. Discuss the moral obligation to address these disparities and ensure a just transition to a sustainable future.

5. Explore alternative economic models:
    a. Consider alternative economic frameworks that prioritise sustainability, equity, and well-being, over growth for growth's sake. Concepts like the circular economy, ecological economics, and well-being economics focus on measures beyond GDP and seek to create an economic system that operates within planetary boundaries and promotes the well-being of all individuals, present and future.

The findings show that climate change will pummel poorer parts of the world disproportionately, effectively sentencing the people who live in developing nations and small island states to extreme temperatures, failing crops, conflict, water and food scarcity, and rising mortality. The final option for many people will be migration. The estimated size of the affected populations, whether they're 2 billion or 6 billion, suggests an era of global upheaval.

Throughout the world, the researchers estimate, the average person who will be exposed to unprecedented heat comes from a place that emitted roughly half the per capita emissions as those in wealthy countries. American per capita emissions are more than twice those of Europeans, who still live a prosperous and modern existence, the authors point out, so there is ample room for comfortable change short of substantial sacrifice. “The idea that you need the level of wasteful consumption ... that happens on average in the U.S. to be part of a happy, flourishing, rich, democratic society is obviously nonsense,” Lenton said.

Reducing consumption today reduces the number of people elsewhere who will suffer the consequences tomorrow and can prevent much of the instability that would otherwise result. “I can't — as a citizen of a planet with this level of risk opening up — not also have some kind of human and moral response to the figures,” Lenton said.

“There are clear, profound ethical consequences in the numbers,” Timothy Lenton, one of the study's lead authors and the director of the Global Systems Institute at the University of Exeter in the U.K., said in an interview. “If we can't level with that injustice and be honest about it, then we'll never progress the international action on this issue.”

Should the world continue on its present pathway — making gestures toward moderate reductions in emissions but not meaningfully reducing global carbon levels (a scenario close to what the United Nations refers to as SSP2-4.5) — the planet will likely surpass the Paris Agreement's goal of limiting average warming to 1.5 degrees Celsius and instead warm approximately 2.7 degrees.

The UN Shared Socioeconomic Pathways (SSPs) are a set of scenarios developed by the scientific community to explore different possible futures and their implications for climate change. They are used as inputs for climate modelling and assessing the impacts, adaptation, and mitigation strategies.

The SSP2 pathway, known as the "Middle of the Road" or "Continuation" scenario, represents a future with intermediate challenges and moderate global development. It assumes a world where population growth slows, economies become more diverse, and technological progress is moderate. Under SSP2, there is no extreme acceleration or disruption in societal, economic, or environmental trends.

The "4.5" part in the "SSP2-4.5" terminology typically refers to the radiative forcing level, which is an estimate of the extent of climate change caused by greenhouse gas emissions. A radiative forcing level of 4.5 Watts per square meter ($W/m^2$) represents a future with an effort to limit global warming to approximately 2 degrees Celsius above pre-industrial levels. This implies substantial greenhouse gas emissions reductions compared to the business-as-usual trajectory but falls short of achieving the most ambitious climate targets, such as the Paris Agreement's goal of limiting global warming to well below 2 degrees Celsius.

Should the planet maintain its current global warming trajectory it will likely surpass the Paris Agreement's goal of limiting average warming to 1.5 degrees Celsius and instead warm approximately 2.7 degrees. The SSP pathway, which accounts for population growth in hot places, could lead to 2 billion people falling outside of the climate niche within just the next eight years.

If a scenario referred to by the U.N. as SSP3-7) occurred, the shifting climate niche could pose what the authors call "an existential risk," directly affecting as many as 6.5 billion people.

The data suggests the world is fast approaching a tipping point, after which even small increases in average global temperature will begin to have dramatic effects. The world has already warmed by about 1.2 degree Celsius, pushing 9% of the earth's population out of the climate niche. At 1.3 degrees, the study estimates that the pace would pick up considerably, and for every tenth of a degree of additional warming, according to Lenton, 140 million more people will be pushed outside of the niche. "There's a real nonlinearity lurking in there that we hadn't seen before," he said.

Here in Aotearoa, there is a clear divide between those who contribute the most to greenhouse gas emissions and those who carry the cost of impact.  This is no clearer than in the Tairawhiti / East Coast region of the North Island where massive and repeated climate change driven impacts are suffered by remote Māori communities, who then have to fight for adequate support following these repetitive disasters.

This is a microcosm of the divide seen between the Global North and South – emphasised at COP conferences year on year.

The development of a TAMPPS model, which supports and enhances mana Motuhake and self-reliance, is critically important in these communities. A "just transition" is not eventuating in these regions, so self-determination and resilience is more critically important, as climate change evolves. In these regions the term climate crisis is used to describe the current and emerging reality, a term that was once used by central Government, which is now being softened.

## East Cape Forestry and Climate Change- A Just Transition?

The Australian Aboriginal say, "We are all visitors to this time, this place. We are just passing through. Our purpose here is to observe, to learn, to grow, to love, and then we return home."[481]

The following information is reproduced from the recently released Ministerial Inquiry into Land Use following the cyclone Gabrielle's visit to the East Cape region.

**Regionally** - Climate change has brought devastating impacts to the East Cape region dating back to cyclone Bola. But we don't seem to learn from the past. In reading a summary of all of the recommendations made after Bola hit this region it is untenable to note that very few if any were followed.

Most local submitters in the recently completed Ministerial Inquiry into Land Use (MILU)[482] commented on the harmful mental health and wellbeing impacts the cyclones has had on them and their community. Increased levels of anxiety and depression were mentioned by many local submitters, and by submitters with whānau and loved ones in the affected areas.

In the Tairawhiti region the majority of people impacted were Māori. Rural Māori who contribute the least to global warming. The climate change driven events are relentless. "*We are expected to continue to being [sic] resilient, and strong and support each other, without meaningful change. We are tired. We deserve better. This is a human rights and te tiriti o waitangi issue".*

[481] https://joyofmuseums.com/museums/australasia-museums/australian-museums/australian-aboriginal-sayings-quotes/

[482] Allen + Clark (2023). Ministerial Inquiry into Land Use - Submissions Analysis

## Submissions Received

The MILU received 320 submissions. These are summarised below in major themes.

Submissions were tagged against an agreed framework based on themes and questions. The majority of submissions were from local residents (156, 55% of the Citizen Space submitters), including 99 (32%) from the Te Tairāwhiti region, and 57 (19%) from individuals who identified as Māori.

## Major themes

The impacts and experiences of Cyclone Gabrielle on local submitters were wide ranging and severe.

• Many submitters considered that tangata whenua should have a strong role in the implementation of solutions, and that government should engage with tangata whenua throughout the process.

• Most local submitters noted personal and well-being related impacts, including physical (home and land, and physical health), mental health-related, and harmful cultural and spiritual impacts caused by destruction and harm to waitai and wai Māori.

• Most submitters commented on the destruction and damage to infrastructure, including major roads, bridges and power lines, and noted that communities were left isolated and blocked from essential transport routes. It was repeatedly noted that this damage was exacerbated by silt and woody debris in the floodwaters.

• Many submitters commented on the environmental impacts, including severe damage to beaches and waterways, and noted the impacts of this to the communities, and habitats of aquatic species.

• The forestry industry and local submitters noted significant economic impacts, including loss and damage to tree crops, local farms, orchards, commercial fisheries, and other business in the area. Submitters noted the ongoing effects of economic impacts, such as a reduction in tourism.
• Some submitters noted historical events, with Cyclone Gabrielle compounding existing damages and mess that had not been cleaned up from previous storms. Submitters listed a wide range of causes for the extent of damage in the region.

• Many submitters noted that land in Tairāwhiti is being inappropriately used and has always been susceptible to erosion due to its topography and geology. Submitters noted that concerns about contributing factors[483] to the severe impacts of storms have been raised

[483] Allen + Clarke Ministerial Inquiry into Land Use – Submissions Analysis www.allenandclarke.co.nz

repeatedly by local communities, but the government has not listened or included them in decision-making processes.

• Many submitters discussed the role of certain forestry practices and considered that pinus radiata plantation forestry has been a major contributor to storm damage, and the mobilisation of woody debris and silt/sediment. Submitters were generally of the view that woody debris (which is mostly made of forestry slash, according to submitters) is the main cause of damage to infrastructure following heavy rainfall events.

• Many submitters noted that the Gisborne-East Coast region is naturally erosion-prone and were concerned that human activities have increased the susceptibility of the land to erosion during heavy rainfall.

While submitters generally did not consider pastoral farming or pinus radiata plantations to be inherently inappropriate, they did note that these activities should only be undertaken after careful consideration of whether the geology of the proposed site will introduce unmanageable risk of silt and sediment mobilisation.

• Many submitters noted that there was a lack of sufficient investment in, and maintenance of, the region's infrastructure, such as stormwater systems, roads and bridges. Submitters also commented on the lack of management and general disregard for the region's roads, particularly in rural areas. In addition, there was particular concern about the impact of under-investment in infrastructure on small Māori communities.

Debris and slip devastation in Tairāwhiti

• Some submitters noted the impact of waterway management, including riparian planting not being appropriately managed, and key waterway infrastructure not being designed and maintained appropriately to enable proper function during periods of high-water levels.

• Some submitters commented that the cumulative effect of several policies and regulations provides incentivisation of inappropriate land use, which leads to a high level of harm following significant weather events.

Submitters who identified as being affiliated with iwi and hapū were concerned that legislation is being developed outside the region by people without a connection to the whenua or environment. These submitters were also concerned that the policy and legislative framework does not take a sufficiently holistic approach to the management of land use and associated risks.

## The Future Vision

Connection with whenua is seen as critical in finding solutions and building reliance. Adaptation not mitigation is the need in these communities.

Of the submitters that identified as Māori, most mentioned that their vision for future land use included maintaining (or, in some cases, redeveloping) connection with the whenua.

In general, there was a sentiment that all solutions should be grounded in **te Ao Māori** and that future policy settings need to consider the holistic nature of the interconnectedness between te taiao and tangata whenua. Many submitters considered that tangata whenua needed to be involved going forward, as the original kaitiaki of the whenua.

Some Māori groups commented in general about the westernised and monocultural land use. Submitters said that the regulatory system has negatively impacted Māori in the affected regions before the severe weather events and resulted in more significant impact as a result.

Many Māori submitters described the impacts on taonga such as rivers, kaimoana, pā, and the knock-on impacts this has on the community. Most Māori submitters spoke to the harmful cultural and spiritual impacts caused from the destruction and harm to waitai and wai Māori.

One Māori submitter stated, *"The wellbeing of whenua & waterways, directly links to the well-being of the people*". There was a feeling of grief and loss shared by many Māori submitters due to the devastation of waterways and beaches during the storm.

Most Māori submitters mentioned the importance of the connection to Te Taiao for the health and wellbeing of them and their communities, and the negative impacts the cyclones have had on this connection.

Some Māori submitters noted, ***"****Our natural heritage [sic] was destroyed overnight. Our mana has been made vulnerable overnight. Our historical places, cemeteries, homesteads, generations of assets lost overnight".* [Local resident, Gisborne/Te Tairāwhiti]

## Leadership failure

The purpose of local government is two-fold:

• To enable democratic local decision-making and action by, and on behalf of, communities

• To promote the social, economic, environmental and cultural wellbeing of communities in the present and for the future. These are necessary, yet extensive and expensive, expectations to meet.

**The Council's Compliance Regime** was questioned by those most impacted:

***“…**nearly all non-compliance relates to earthworks and sediment issues and very little non-compliance relates to poor ‘slash’ management. The non-compliance relates predominantly to either inadequate installation or maintenance of erosion and sediment control measures”.*
[HBRC]

**Personhood status.**

It is recommended that the Government introduce legislation that provides tailor-made legal frameworks for the restoration and maintenance of the environmental health of the Waiapu and Waipaoa Rivers, including conferring **legal personality on the rivers**, in conjunction with the establishment of a governance entity empowered and resourced to act and **speak on their behalf.**

## Colonisation

Tangata whenua in this region are well aware that the land use model that has caused the ecological disaster seen locally is part of the ongoing colonisation of place and people.

*Changing or straightening the course of rivers, and lakes and removing wetlands can lead to inundation events when water flows are altered from land use changes such as deforestation, urbanisation, or building dams to prevent flooding can create impacts that change the volume and velocity of water in the river and lakes. This can increase the erosion of riverbanks and impact taonga kai and any dependent species.*

*The enduring colonising logic that wetlands are only valued to the extent that they can be used as farmland to produce economic returns or be used as dumps remains constant. Councils are reluctant to regulate the use of land, even when the extent of damage to the whenua generated by land use intensification is beyond doubt.”*

[Pākōwhai No2 Incorporation].

This is not just voiced within the local Māori community.

*“This is a problem that is not exclusive to Tairāwhiti, where rivers go over or through stopbanks to reclaim their previous beds and natural patterns. International studies show that allowing a river to self-adjust is cheaper and more effective than active interventions that force a river into a particular place… Essentially, the entire natural ‘stormwater’ system – forests, wetlands, and rivers – has had its capacity severely reduced. We must increase the ability of that natural system to cope with extreme weather. That means we must address all parts of the problem – native forests, wetlands, and river corridors. We cannot only focus on forestry slash.”*

[Forest & Bird]

The impact harvesting is having is well known to those who have loved there and been connected to place for over 35 generations.

*The impacts of forestry and slash in Tairāwhiti must be addressed to protect social, economic, and coastal infrastructure. Although similar events occurred prior to forestry, worsening storms and mismanagement during harvesting have significantly increased the impact of these problems."*

[Mana Taiao Tairāwhiti]

Tangata whenua know that pinus radiata root systems are shallow and unsuited to the soil in the region, making them easier to mobilise in strong rainfall or wind. Submitters also noted that the harvest of the pinus radiata reactivates erosion as it leaves the land bare and vulnerable for a period of around six years.

Furthermore, due to slope failures, mature or maturing trees can be mobilised, which some submitters considered to be a greater contributor to the total amount of woody debris than post-harvest material. Some submitters considered that pinus radiata plantations, and their consequent slash, impose high costs on the local communities through the costs of damages, while offering a relatively small economic benefit through employment

*"Forestry debris (slash) continues to add a more distressing element given the sheer volume of mobilised material in rain events which are common to the region, and for which the region has been known for as long as rainfall records exist.*

*The damage from debris flows, and their ability through sheer force to strip riversides of vegetation, dam channels and create 'beaver dams' is increasingly ensuring costs for activities within forests, become a burden for those beyond the forests. These externalities remain absent from any accounting mechanism for ecosystem services and are largely discounted as 'legacy issues' for which no one is held directly accountable provided that resource management conditions have been met."*

[Te Tairāwhiti local resident, rural landowner]

### Insights on Ecological Impacts

Insightful comments made by local tangata whenua make compelling reading:

*"[t]hrough the ETS the wairua value of Tangaroa, Tāne Māhuta, Rongomaraeroa and Haumia-tiketike have been distorted into quantifiable articles that can be traded, weighed, measured and exploited for profit at the expense of the countless living species that uphold the integrity of the biosphere, and with little substantive input from Māori.*" [Pākōwhai No2 Incorporation]

And:

***"****Given that these concerns were being raised over twenty years ago, long before the worst of the environmental damage began to become apparent, it is evident that there was, and remains, a scepticism [sic] expressed by policy makers towards the validity of local concerns,*

*and therefore the impetus to respond to them is often absent… There remains a reluctance amongst decision makers to look back and properly understand the implications of how decisions of the past were made, and what can be learned as a result.*

*This failure to learn from previous mistakes (or even to bother reviewing them at all) likely destines us to repeat them, at great human, environmental and economic cost. This failure to learn from previous mistakes (or even to bother reviewing them at all) likely destines us to repeat them, at great human, environmental and economic cost."*

[Te Tairāwhiti local resident, rural landowner]

*"With the benefit of hindsight, it is clear that some areas should not have been established in commercial exotic forestry. Consequently, some areas that were planted should not be harvested and some areas that have been harvested should not be re-established in commercial exotic forestry."*

[Aratu Forests]

### Overall Environmental Impacts

Putting erosion and impacts [generally] in scale and context, about 250,000 hectares of Hawke's Bay hill country alone is at high risk of erosion, and about 6.8 million tonnes of sediment eventually enters the region's waterways every year, detrimentally impacting water quality and aquatic life.[484]

Hill country erosion in Hawkes Bay[485]

The smothering of marine benthic assemblages can have significant impacts on the whole food chain and sea birds reliant on pelagic species for food. Some potential effects are:

- Loss of Habitat and Biodiversity: Smothering of marine benthic assemblages can result in the destruction or alteration of critical habitats for various organisms. Benthic communities play a crucial role in supporting biodiversity, serving as nurseries, feeding grounds, and shelter for many species. When these habitats are smothered, it can lead to a decline in biodiversity and a loss of important ecological functions.

[484] Land for Life | The Nature Conservancy. https://www.nature.org/en-us/about-us/where-we-work/asia-pacific/new-zealand/stories-in-new-zealand/land-for-life/

[485] https://www.hbrc.govt.nz/our-council/cyclone-gabrielle-response/dealing-with-hill-country-erosion/

- Disruption of Trophic Interactions: Benthic organisms form the base of the food chain, providing a source of food for other organisms. By smothering benthic communities, the availability of prey for pelagic species may be reduced. This disruption can impact the entire trophic structure, affecting organisms at higher trophic levels, including sea birds that rely on pelagic species for food.

- Decreased Prey Availability: Sea birds, such as gulls, terns, and pelicans, often depend on pelagic species like fish and plankton for their food supply. If the smothering of benthic assemblages leads to a decline in pelagic species due to reduced prey availability, sea birds may face food scarcity. This can negatively impact their reproductive success, survival rates, and overall population health.

- Altered Foraging Patterns: If Seabirds experience a decline in their primary food sources due to the smothering of benthic communities, they may be forced to alter their foraging patterns. This can result in increased competition among individuals or changes in their feeding behaviour, leading to potential shifts in distribution and abundance of sea bird populations.

- Cascading Effects on Ecosystem Functioning: Changes in the food chain and the availability of food resources can have cascading effects on ecosystem functioning. Reduced populations of sea birds due to food scarcity can disrupt nutrient cycling, seed dispersal, and predator-prey dynamics, potentially altering the overall structure and functioning of marine ecosystems.

Many submitters mentioned the severe damage to beaches and waterways, which have been covered in forestry slash and woody debris. They noted many beaches were now too dangerous for communities to access for walking, surfing, or swimming.

Some submitters mentioned the ongoing erosion of riverbanks due to 'log waves'. This erosion has caused further trees to fall into waterways, worsening the damage already caused by Cyclone Gabrielle.

These events have changed the life of local Māori who rely on kaimoana. The described the negative impacts of sediment and slash on the habitats of native aquatic species, including eels, rock lobster, pāua and kina. It was noted that due to the amount of damage caused by Cyclone Gabrielle, the impacts on aquatic life were <u>not yet fully understood</u> or recognised. Damage to kaimoana gardens from slash and silt created a deep concern and danger for many local Māori submitters who access these places for kaimoana. It was noted that many local kaimoana areas were now bare and covered in silt.

*"Excess sediment is a pollutant in aquatic ecosystems because there are multiple implications of increasing sediment loads to the health and functioning of our freshwater and marine*

*environments. In the marine environment, for example, sediment smothers shellfish, reduces light which reduces seaweed growth which has knock-on effects up the food web, makes it hard for birds and visual predators to hunt and reduce oxygenation, and can lead to toxic algal blooms (Green et al., 2021)."*

[Mana Taiao Tairāwhiti]

Forestry practices and (local and national) government legislation and policy were identified as leading contributors to erosion and the historical impacts of weather events, with acknowledgments that farming and insufficient infrastructure are contributors as well.

Submitters mentioned incentivised deforestation of native forests throughout the regions' history, especially by European settlers, to build housing, create infrastructure, and clear land for pastoral farming. This left the land bare and increased the chances of erosion.

*"The underlying issues contributing to the extent of cyclone damage in the Tairāwhiti and Wairoa region are poor land-use decisions and the strong dichotomies in land management in New Zealand between conservation and production, and indigenous and exotic ecosystems. This is particularly evident in forestry, and it limits the realisation of the wider value of forests (native and exotic) in our rural working landscapes and urban areas, and their importance for land stabilisation, biodiversity, climate adaptation, water quality, and human well-being.*

*There is a strong dichotomy between clear-fell systems on one side, and retirement to native forest on the other – with nothing much in between, other than a very small minority of brave practitioners of continuous cover forestry (CCF) systems. This polarised dichotomy has largely been driven by short-sighted, black-and-white policy initiatives from previous New Zealand governments. It has stymied diversification, and therefore climate resilience, in forestry land use in New Zealand."*

[Tane's Tree Trust]

The Panel found that the current and former land use in the region has put food on the tables of many Tairāwhiti and Wairoa whānau across multiple generations. However, the mismatch of land use with land type has had dire impacts on local communities.

To maximise opportunities and ensure costs do not fall disproportionately on local people, short-term thinking must be abandoned. Future employment opportunities will need to be developed that lift the skillset of the community, reflecting their values and visions for the future. There must be support for the local workforce to transition to the new economy, and tangata whenua must have viable options for staying on their whenua.

**Farming**

A few submitters considered pastoral farming as a more productive use of land as it provides more sustainable and consistent employment, although "regenerative" or "sustainable" pastoral farming practices were mentioned by these submitters.

Submitters mentioned finding a balance between pastoral farming, horticulture, and forestry in the region. A few submitters also thought that forest farming should be part of the vision for the future and be utilised in the region.

## Recovery

The impact that has been inflicted upon the Tairāwhiti and Wairoa regions is profound.

Economic, social, and cultural recovery will take years. At the whānau and community level, people shared highly personal stories about the heavy physical and emotional toll of the recent and cumulative severe weather events. People reported increased anxiety and depression, fear, and paranoia, and feeling overwhelmed, stressed and abandoned.

Across all our engagements, we got the strong sense that people and communities are exhausted, frustrated, and that they have reached the end of their capacity. Experience from comparable disasters, which also had the imminent threat of repeat events, shows the severe effects on people's mental health and wellbeing. Most of the recovery-related recommendations in this report could be characterised as having a physical or systemic focus (such as infrastructure remediation, clean-up, and immediate funding).

However, in the drive to transform the region, the very personal social, emotional, mental, and physical health needs of affected people should not be forgotten.

## Essential Next Steps

**Community-led solutions:** In general, submitters felt that the local community should be closely involved in all aspects of the solutions going forward.

**Tangata whenua:** Many submitters felt that tangata whenua should have a strong role in the planning and implementation of solutions. Submitters said that government should closely engage with tangata whenua throughout the process. In answer to the question, many submitters simply answered "whānau", "iwi" and/or "hapū". Some submitters mentioned specific iwi, iwi organisations, and Māori groups that should have a role in implementation, including Mana Taiao Tairāwhiti, Maungaharuru Tangitū Trust, Nga Pou a Tāne, and Hauiti Incorporation.

*"Today, our sanctuaries tend to be marae. When we are under attack from flooding, people flee to the nearest marae where they are fed and housed. Māori know how to cater for people at times of crisis. But the people who are making major decisions about allocation of*

*resources and disaster recovery funding* *tend to be non-Māori* *who have* *little connection* *with the lands and people who have been devastated.*

*We need more tangata whenua in the decision-making roles. Not just the solo "super Māori-fulla" that we have seen government departments use in the past; that way leads to* ***burn-out*** *and one voice is easily ignored in a roomful of non-Māori "experts". We need teams of people who understand tangata whenua needs and concerns."*

[Te Wairoa local resident, Māori, rural landowner]

Some submitters extended an invitation to continue to be engaged or involved in the future. Many responses identified local communities as key to the discussions, and some provided examples of programmes such as native planting programmes, school/kura programmes, and ecological groups specific to the region. Submitters recommended more community-led programmes which are supported (through advice and funding) by the government.

Some submitters discussed the benefits of communities working together, and working to ensure forestry companies were compliant. There were mixed views on taking a localised approach versus a nationwide approach. Some submitters stated that the local community knows best, and localised solutions should be applied.

Others indicated that there are lessons learned from these severe weather events (and others) that should be applied to national-level solutions.

Some submitters placed a particular emphasis on the importance of engaging with local Māori to ensure that the correct species are planted in the appropriate areas.

*"Native planting to be the preferred and if any pinus radiata are planted they must be strictly monitored at harvest."*

[Te Tairāwhiti local resident, rural landowner]

**Native Trees**

Indigenous and mixed forests: Many submitters suggested that more native trees should be planted, and the region should have a greater focus on biodiversity. A few submitters talked about using "'mosaic-like' landscape patterns" or taking a "mosaic approach" with a mix of native and exotic tree crops. These included submissions suggesting that exotic forests should be transitioned to permanent indigenous forests.

Some submitters suggested specifically that the steepest, most vulnerable hill country areas should be reverted permanently to indigenous forest. Many native species were suggested, but totara, kānuka, and mānuka came up most frequently. A few submitters suggested that all riparian zones should be planted with native trees to act as a buffer between pinus radiata forests and waterways. Submitters suggested that this could act as a natural slash trap. Some submitters said that a mix of exotic and native species should be planted in accordance with sustainable land use and management practices.

**Clear felling:** Submitters called for an end (complete ban) to clear felling on erosion prone land. Small coupe harvesting[486] has also been suggested as an alternative to the current practice of clear felling in New Zealand. This involves restricting the area of forest that can be clear felled at one time and harvest tree crops over longer rotations.

One submitter suggested learning from ethical forestry traditions in Europe, such as Plenterwald[487]. This is a “mixed-age, mixed-species model forest with no beginning and no end – that is, it emerged from natural forest and being sustainably harvested, is perpetual.” In a similar vein, continuous cover forestry was mentioned by a few submitters as an alternative to clear felling practices.

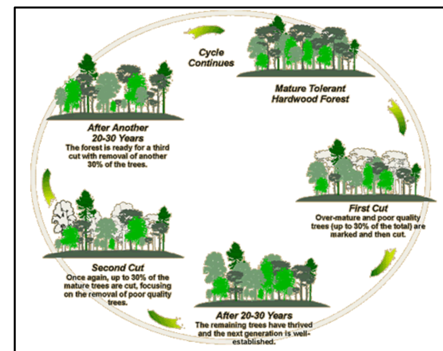


Figure 22. Selection Silviculture Model[489]

Selection cutting, referred to as the selection system[488], is a forestry technique that involves the careful removal of trees in a manner that aims to transform a forest stand into an uneven-aged or all-aged condition.

This practice, also known as "selection silviculture," utilises stocking models developed from the observation of mature forests. By implementing selection cutting, forest management focuses on facilitating the establishment, ongoing growth, and eventual harvesting of multiple age classes of trees within a stand.

Typically, this method involves the management of three age classes, although it is feasible to work with five or even ten. A closely related forest management approach is Continuous Cover Forestry[490] (CCF), which employs selection systems to achieve a permanently irregular structure within the stand.

Selection cutting or systems are generally considered to be more challenging to implement and maintain than even-aged management, due to the difficulty of managing multiple age classes in a shared space, but there are significant ecological benefits associated with it. Uneven-aged stands generally exhibit higher levels of vertical structure (key for many species of birds and mammals), have higher levels of carbon sequestration, and produce a more constant flow of market and non-market forest resources than even-aged stands.

Although a forest composed of many stands with varied maturity ages maybe comparable, this would be at the forest rather than the stand level. This silvicultural method also protects forest soils from the adverse effects of many types of even-aged silviculture, including nutrient loss, erosion and soil compaction and the rapid loss of organic material from a forested system. Selection silviculture is especially adept at regenerating shade-tolerant species of trees (those able to function under conditions of low solar energy, both

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[486] https://www.nzffa.org.nz/farm-forestry-model/resource-centre/tree-grower-articles/may-2009/continuous-cover-forestry/

[487] https://www.sciencedirect.com/science/article/abs/pii/S1389934115300459

[488] https://en.wikipedia.org/wiki/Selection_cutting

[489] https://forestrypedia.com/selection-system-detailed-note/

[490] https://environmentalevidencejournal.biomedcentral.com/articles/10.1186/s13750-018-0138-y

cooler and less light), but can also be modified to suit the regeneration and growth of intolerant and mid-tolerant species. This is one of many different ways of harvesting trees.

Selection cutting as a silvicultural system can be modified in many ways and would be so done be a forester to take into account varied ownership goals, local site conditions and the species mix found from past forest condition. Many submitters suggested that regulation needs to be used to address the issues.

**Logging technology:** Some submitters suggested that low-impact felling equipment should be used in New Zealand, such as articulated wheeled machines, and low impact extraction equipment should also be used, such as full suspension extraction systems (such as cables). The use of "slash traps" was suggested by some submitters, although other submitters noted limitations of slash traps and ongoing debate regarding their use. The submission from Roger Dickie Ltd felt that the requirements for consenting slash traps should be reduced to allow slash traps to be implemented more easily by forestry companies.

Other submitters felt that slash catchers needed to be subject to rigorous engineering design and hydrological modelling to ensure that they can realistically cope with anticipated flood levels. It was also noted that existing slash catchers need to be regularly inspected and cleaned.

**Detailed mapping of landscape:** A few submitters mentioned that computer-based technology to undertake detailed mapping of landscapes could be utilised to undertake risk assessments and identify land that is of high risk of erosion and sediment loss.

It was suggested that the risk assessment could correspond with the land use (e.g., very high-risk areas would be retired and reverted to permanent forest and clear felling could be undertaken without restriction on low-risk land). Some examples of this technology included: SedNet Landscape modelling[491] and Land Use Capability (LUC) mapping[492].

A few submitters did suggest that the LUC mapping needed to be done at a finer scale. Many submitters expressed concerns about the amount of forestry waste that is currently created in the region. There were several solutions suggested for the waste products. Submitters suggested that the forestry industry could process woody biomass for various other products such as paper, jib, **biochar,** biofuel. It was suggested that there are a range of markets for these by-products that are not currently being utilised.

**Biochar in particular,** was mentioned by a number of submitters. Proposed methods of creating biochar included:

- using modified air curtain burners
- using the Cleaner Conservation burn techniques[493]

[491] http://tools.envirolink.govt.nz/dsss/sednet/

[492] https://ourenvironment.scinfo.org.nz/maps-and-tools/app/Land%20Capability/lri_luc_main

[493] https://www.vineyardteam.org/resources/resource-library/air-quality.php?id=631

• using flame cap kiln

**Riparian zones:** Most submissions mentioned riparian zones. It was generally submitted that riparian zones for waterways should be planted out and a number of submitters felt that planting out riparian zones would be a positive solution to support the vision they see for the future. This was a key theme that featured throughout the submissions.

*"Riparian planting provides shade, lowers river temperatures, limits periphyton and macrophyte growth, regulates dissolved oxygen, filters sediment run-off, and provides adult insect habitat. Targeted erosion control and excluding stock from riverbanks also reduces bank erosion and prevents sediment from entering waterways, as well as reducing direct faecal contamination."*

[HBRC]

**Pest control**

A few submitters suggested that a strong pest control regime will be critical to support healthy forests in the future. Some submitters mentioned that recreational hunting would not sufficiently control pests in the region and a methodical regime should be put in place to ensure the sustainable future of forests in the region.

**Economic and market incentives**

Generally, most submitters felt that "best practice" land use should be financially incentivised in order to support sustainable and long-term solutions. Many submitters made suggestions for access to funding as part of the desired solution.

For example, funding for soil conversation work programmes, for land management and soil conservation advice to be provided, wetland restoration, and research into sustainable land use diversification. It was also suggested that financial support should be provided for recovery, and to compensate for any loss of productive land as a result of solutions that are implemented (e.g., retiring productive forests or requiring larger riparian zones to be planted).

*"A system is needed to incentivise transition to a more sustainable land use on the most vulnerable land that also provide multiple positive outcomes."*

[GDC]

**State Highway 35**

A recommendation has been made to ensure the development of a full resilience plan for SH35 and SH2 in the region, and fully fund the plan in its entirety, separate from the National Land Transport Programme by the end of 2024.

### A Just Transition

A Just Transition for Tairāwhiti and Wairoa is about how we equitably adapt to climate change, but it is also about how we equitably transition to our broader aspirational state. With changes to land use will come changes to the working and living situations of people in the region, and these changes will present both costs and opportunities.

Decisions made in response to this Inquiry, and as part of the broader recovery effort, will likely impact unevenly across demographics, income levels and business sectors. Businesses, especially those in forestry, have made investments based on a permissive regulatory environment.

Change may come with significant costs to these businesses and importantly to those they employ. More broadly, achieving the vision of the future for the regions will also incur the costs of change – for forestry and for other industries. We are acutely aware of the potential for people to lose their jobs, the value of their current investments and, with those, their sense of security.

However, the changes and recovery efforts we are proposing also present massive opportunities to build an economy that delivers abundance in all its forms to the people of Tairāwhiti and Wairoa. We cannot let the fear of the cost dissuade us from achieving our vision.

With coordinated strategy and support, and with forward-thinking leadership, we can ensure that opportunities are maximised, and costs do not fall disproportionately on local people. Importantly, we have the opportunity to ensure that equity for Māori land development can be achieved, and that whenua Māori will not be left behind again as the economy rolls on.

A critical part of the transition will be engaging in research and development, and subsequently investment, into alternative industry growth and land use that will support the vision for the communities.

Specific investment in workforce development and transition is also needed, to ensure that local people – especially those employed in industries that will require transformation or transition – stand to benefit from transition opportunities rather than shouldering the burden of transition costs.

The people of Tairāwhiti, especially tangata whenua, are committed to living here. Sustainable employment and investment opportunities must be available 'close to home', to ensure tangata whenua have a viable choice to stay on their whenua.

Throughout this Inquiry, many organisations and individuals from across the whole community have put forward ideas for changing and transforming the regional economy.

A just transition will require a coordinated approach from the whole community: businesses, including Māori and iwi businesses, workers, education institutions, local government, and community members.

The Government already has a Just Transition programme in place, led by the Ministry of Business Innovation and Employment, and we would like to see resources and support from that programme directed to Tairāwhiti and potentially also Wairoa. Enduring and sustained government support is required to create the appropriate strategic policy and investment conditions for a successful transition process.

## The Vision

After weeks of extensive engagement, we have heard the fear, anger and doubt of the communities of Tairāwhiti and Wairoa. We have also heard their hopes, aspirations and visions for a future where their mokopuna are safe, thriving and enjoying their unique inheritance as people of these lands.

**By 2123,** in Tairāwhiti, and Wairoa, we will see:

- **Whenua** Māori **at the forefront of high-value productive land uses** that provide environmental, social and cultural co-benefits.
- **Lands healed, cloaked with the right trees in the right places, and filled with the sounds of restored birdsong.**
- Carbon being captured on a long-term basis through the right mix of indigenous and exotic forest, to the point the region is known as 'the lungs of the Pacific'.
- Pristine catchments where water flow is integrated through revitalised ecosystems, toward thriving coastlines.
- The local economy thriving in harmony with the regenerating and flourishing environment.
- Innovative commercial developments creating lucrative returns for local businesses and people.
- Fruitful opportunities and lifestyles for local people that give them the real option of remaining on their own lands, resilient infrastructure that is designed to meet the values and needs of the people.
- Exceptional governance, leadership and decision-making that reflects a reframed relationship with the land, informed by the aspirations of the people, by tikanga and by science.

### Alignment of Vision Findings

The Panel found that the community is demanding a new paradigm for their regions. The storm has galvanised people into an expectation for urgent change. Their vision for the

region is of flourishing biodiversity; healthy catchments, waterways, and coastlines; and resilient infrastructure and diversified economy – so that they, too, can flourish and thrive.

This vision is perfectly aligned to government policy decisions at home and abroad. We are at a pivotal time in which we must take real action and live up to our commitments. Right now, the Tairāwhiti environment is on the verge of collapse, yet can become a living laboratory, providing evidence and lessons for adapting to a climate-changing world.

**Giving life to the Vision**

A vision is not useful unless it is accompanied by action. The recommendations we offer are intended to ensure concrete, long-term commitment to Tairāwhiti and Wairoa.

We recommend a broadly applicable statutory vision for Tairāwhiti. In the case of Wairoa, we expect the Hawke's Bay **Regional Spatial Strategy**[494] (RSS) development process will be the key tool for setting a vision and drawing support and investment.

To support Wairoa in that process, we suggest considering whether a statutory weighting for the vision articulated in this report should be applied in the Hawke's Bay RSS process. Although legislation would provide for a vision and accord it a legal status, the vision itself would sit outside the legislation, to ensure it could be reviewed and updated in the future. The statutory vision needs to be in place as soon as possible, to strategically guide the scale of action required.

Therefore, as a first iteration, we suggest a simple statutory vision could be drafted on the vision this Panel has set out. Once the regional leadership collaboration model is established, we expect future, and potentially more detailed, iterations of the vision (similar to Te Ture Whaimana – the Waikato River Vision and Strategy) could be driven by regional leaders with intensive community engagement.

The development of an investment model will ensure that the vision is resourced, and that investment is coordinated and strategic. Specific applications of the investment model are covered in the relevant sections of this report.

Many Māori submitters mentioned native trees as part of their vision for the future - seeing more native trees growing in the region.

It was often noted that the ETS does not currently incentivise the planting of native trees. A few Māori submitters mentioned not being eligible for the regenerating native option under the ETS because the land started to regenerate prior to 1989/1990.

Te Tumu Paeroa had significant comments on the current policy and regulatory framework. For example, they do not think that the Erosion Control Funding Programme was ever fit-for purpose for small whenua Māori entities. Some Māori submitters felt that the forestry

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[494] https://www.chbdc.govt.nz/our-district/economic-development/responding-to-growth/

industry needed to be more closely regulated, for example, be required to clear forestry slash/by-products.

Some Māori submitters also felt that foreign ownership of forestry was not beneficial to the region's whenua.

"*Ko te ture ō inaianei tētahi huarahi. Ko Te Tikanga Māori tētahi atu*"

[Local whānau, Tūranganui-a-Kiwa]

"[*f*]*ailure to consider and acknowledge the Kawa O Te Wa Nui A Tane*."

[Te Tairāwhiti local resident, Māori, iwi/hapū, marae, rural landowner]

"When the first draft of the National Policy Statement for Indigenous Biodiversity was released in 2019, section 32 report indicated that whenua Māori was disproportionality affected by the policy proposals, however no allowances, at the time, were made in the policy to recognise the complexities and nuances of whenua Māori ownership until submissions were received.

This was also the case with the "Pricing of Agricultural Emissions Discussion Document"[495] released in 2022 where the Māori Trustee highlighted that the Government had designed the system **based on a western framework** that did not provide for whenua Māori and its owners. Instead, the lessee's or farm operators held the power and owners were not considered and again locked out.

The Māori Trustee also notes that the Government's glacial pace in addressing Māori freshwater rights and interests continues to obstruct the ability for Māori to develop their whenua. There are numerous Māori land blocks within the Tairāwhiti region that could be developed for alternative uses if access to water was possible. [Te Tumu Paeroa]

### The Future

Māori submitters talked about "**letting the whenua heal**" and native regeneration. Submitters eloquently described their vision for the future, for example "That our hapū, and marae whānau will not be alienated from their whenua." and "**Ka ora te whenua, ka ora te tangata** – When the land is well, the people are well".

Most Māori submitters' vision for the future included seeing more natives planted. Planting riparian zones (particularly with natives) and finding productive uses for woody biomass (biochar, pulp, etc.) was also commonly suggested.

Many solutions were suggested by Māori submitters, all of which are reflected in Section 3.3 Solutions. Some of the key solutions that were often suggested by Māori submitters were:

[495] https://environment.govt.nz/publications/pricing-agricultural-emissions-consultation-document/

- Assessing where production forestry or pastoral farming should be banned due to the land type (e.g., erosion prone)
- Banning or restricting clear felling
- Planting more native forest
- Restricting the size of pine plantations
- Better riparian zone management and planting
- Creating useful by-products from forestry waste.

Amendments to the ETS particularly to incentivise the planting of native trees was often suggested. It was also suggested that the ETS regime is amended to avoid disadvantaging Māori landowners whose native forests were planted pre-1990, or those with non-Western land or forest ownership structures. Many Māori submitters also felt that forestry companies needed to be held to account and the fees and fines for non-compliance with the regulatory regime should be reassessed.

The NES-PF[496] was also often raised by submitters. It was suggested that the regulatory regime should allow for regional rules that can override the national standards.

It was often suggested that land use should be planned for and implemented from a mātauranga Māori position and ensure that the land use matches the land suitability. Submitters felt that the rebuilding process needs to be inclusive and collaborative of Māori, non-Māori, landowners, farmers, iwi, marae, hapu, tourism, and community focused groups. It was emphasised that the people in the region should be engaged early and often, and the council should be working with relevant hapū throughout the region.

Industry Many industry submitters commented on the vulnerability of the land after clear fell harvesting and the associated risk of erosion at that point. Industry submitters tended to recognise the impacts of forestry practices, particularly on the role of forestry waste after the severe weather events, but often noted that there is currently no incentive for the removal and repurposing of that waste. It was submitted that the current policy framework does not support a circular bioeconomy for the forestry industry.

Some suggestions for the repurposing of forestry waste included: establishing a pulp mill in the region, making usable firewood available for public use, and trucking slash out of harvested areas. Industry submitters acknowledged the impact that slash had on communities after Cyclone Hale and Gabrielle and the use of slash traps and guardrails were often explored in submissions.

The most notable difference between submitters from industry and other submitters was the discussion about native trees and forest. Some industry submitters noted that native forest was likely to be suggested as a solution. They often noted that native forest was not a whole solution and that the need for economic returns from productive land cannot be ignored. Some submitters urged that a pragmatic approach is taken to solutions; where

[496] https://www.mpi.govt.nz/forestry/national-environmental-standards-plantation-forestry/

climate forestry is balanced with economic value and a strategic approach to land use is taken.

It was also suggested that central government needed to intervene in relation to carbon price. A few industry submitters suggested that the ETS is amended to support continuous cover forestry in order to make it economically viable. The local government submitters were: Bay of Plenty Regional Council, Local Government New Zealand, Wairoa District Council, Hawkes Bay Regional Council, and Gisborne District Council. Local government submissions were generally thorough and substantive.

Their submissions generally focused heavily on the impacts that they saw in their region, the policy and legislative framework that they work within, and land management and planning going forward. The recommendations from key local government submitters provide the most valuable insight into the distinct aspects of their submissions.

Therefore, these have been provided in full in Appendix B: Recommendations from local government submitters.

*"We need central government to stabilise the carbon price to send clearer signals to the investment community, and thereby unlock large volumes of private capital for this task. This carbon price stabilisation would greatly benefit from a cross party agreement on carbon market policy.*

*[…] We need central government to reduce investment risk to investors considering investing in continuous cover forestry (CCF), and re-wilding carbon forestry at scale. This investment risk can be reduced by the government carrying some of this risk through one or other form of underwriting. One example would include underwriting the carbon price benchmarked to a price point annually that will enable private investment to crowd into this sector with the scale of money needed in order to transform an entire region."*

[Ekos]

## Land Use Mosaics

Enabling a mosaic of sustainable land uses. The fragility of land in this region is well known, with Tairāwhiti being more vulnerable than Wairoa. Despite this knowledge, the interventions intended to maintain productive uses of the land have largely failed to stem the flow of soil to the rivers and then to the sea. Worse still, some of our previous land-use decisions, which sought to stabilise the hills that had been deforested for pastoral farming, are now resulting in woody debris being added to the sediment flows, magnifying the impacts on downstream communities. The solution, in our view, is to pursue a more nuanced vision of a mosaic of sustainable land uses – both protective and productive – that are more appropriate to their place in the landform.

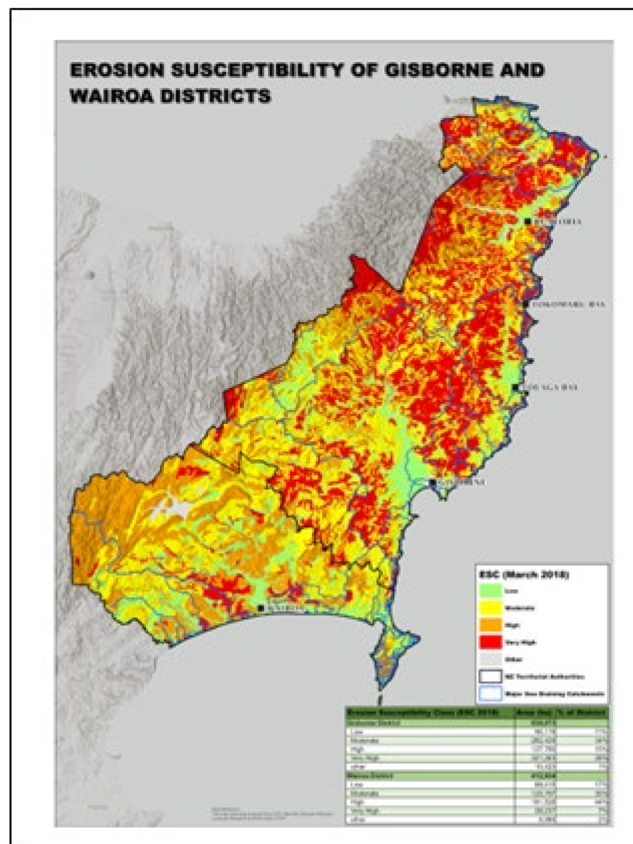


Figure 23: Source - Ministry for the Environment

Within the existing red zone, there is some land that is too susceptible to erosion to be used for forestry or farming.

We propose this land needs to be identified in the **Erosion Susceptibility Classification**[497] (ESC) as having ‘extreme erosion susceptibility’ and be mapped as a ‘purple zone’. This land must be returned to permanent forest – preferably native – which would have the advantage of biodiversity co-benefits. Identifying that land at a management unit scale requires higher-resolution information than is currently available.

We heard that around half the erosion in Tairāwhiti comes from highly erodible gullies, despite them only representing around two per cent of the region’s area.

To date, efforts to restore these gullies have barely kept pace with the formation of new ones. We heard from soil scientists that the next five to ten years is critical or the damage may be irretrievable. A sustained and focused effort will be required for several decades to reduce their contribution.

[497] MPI (2017) Plantation Forestry Erosion Susceptibility Classification Risk assessment for the National Environmental Standards for Plantation Forestry

In addition to transitioning purple zone land to permanent forest and healing the gullies, we also need to improve forestry practices and management of pastoral farming.

In Wairoa, erosion is more commonly associated with shallow mid-slope land sliding. The freshwater farm plan[498] (FW-FP) process provides an ideal opportunity for pastoral farmers to future proof their farming activities, reducing soil loss in the process. Proposed changes to forestry management are discussed in the Forestry section.

We know that the current Tairāwhiti Resource Management Plan[499] (TRMP) is out of date and urgently needs review (see Leadership and governance section) The catchment-focused approach for managing freshwater required by the NPS-FM[500] needs to be mirrored by the same approach to managing land-use activities – particularly for the most erosion-prone land, and for riparian margins around waterways. The establishment of permanent exotic forests in inappropriate locations is of great concern to many in the region, and this needs to be addressed in the plan review.

Among other issues, such as access to capital on whenua Māori, we heard that access to water to enable horticulture development is a critical part of the mosaic of sustainable land use. The first in-first-served allocation principle of the RMA is impeding regional transformation and demands reconsideration. The Government's programmes such as Mahi mo te Taiao[501] (Jobs for Nature) and Raukūmara Pae Maunga[502] have been positively impactful in the region, with intergenerational teams of inspired people committed to the restoration and protection of the whenua they whakapapa to. However, despite the need for long-term and continuing environmental care, the funding is temporary.

Securing, and expanding the funding for these programmes is essential. This workforce will provide the skilled and experienced labour force, environmental management and governance capability needed to tackle the task of transforming our most vulnerable land to forest and other environmental change required. They and those they attract to this work have found their calling. They need reliable funding to continue their critical front line work.

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[498] https://environment.govt.nz/acts-and-regulations/freshwater-implementation-guidance/freshwater-farm-plans/

[499] https://www.gdc.govt.nz/council/tairawhiti-plan/tairawhiti-plan

[500] Land and Water Forum. 2010. Report of the Land and Water Forum: A Fresh Start for Fresh Water

[501] https://environment.govt.nz/what-government-is-doing/areas-of-work/jobs-for-nature/about-mahi-mo-te-taiao-jobs-for-nature/

[502] https://www.raukumara.org.nz/

Nowhere is this more evident than in the Uawa catchment, particularly the Hikuwai River. We heard that, in this catchment, clear-felling of 4,500 hectares of forest over a 3- to 5-year period led to sediment and woody material forming debris flows that caused devasting damage downstream. The existing regulatory instruments are too permissive and did not prevent large areas of individual catchments being felled at once. This needs an urgent response.

Accordingly, we recommend an immediate halt to large-scale clear-fell harvesting within Tairāwhiti and Wairoa districts, and the adoption of staged coupe harvesting as an alternative. This should be undertaken alongside the immediate extensive clean-up of woody debris, as discussed in the Woody debris, sediment and waterways section. It is important to note that this recommendation only relates to Tairāwhiti and Wairoa and is not intended for nationwide application.

### Clear Felling

This restriction of clear-felling would include the following:

- There should be a limit to the total area within a catchment that can be clear-felled each year. We suggest that an appropriate area is no more than five per cent of a catchment per year.
- We suggest that an appropriate maximum staged coupe size is 40 hectares. A minimum 'green-up' period of five years between staged harvest coupes will minimise the risk of large-scale erosion events.
- There should be a requirement to remove woody debris from red-zoned land wherever practical or otherwise dispose of safely.
- A requirement should be introduced that forest harvest plans be reviewed and approved by an appropriate central government regulator, in order for forestry activities to be permitted under the National Environmental Standards for Plantation Forestry (NES-PF).

The regulatory environment is broken. The regulatory environment and implementation of regulations have miserably failed to prevent predictable off-site effects from forestry activities. The NES-PF is too permissive, the council plan is out of date and inadequate, the consents have been ineffective, and compliance monitoring activities appear to have been under-resourced. These instruments need review. Forestry practices must adapt to better reflect the fragile landscape. In addition to the restrictions on clear-felling, we suggest that plantation forestry needs to transition away from the most extremely erosion-prone land. Achieving this is likely to require amendments to the NES-PF, as well as to the relevant regional plan. We suggest that amendments need to expand the current ESC to include an 'extreme' erosion susceptibility category (a 'purple zone').

The ESC will need to be remapped in higher resolution to identify the purple zones, which can then be identified in the respective regulatory tool. Where exotic plantation trees are currently planted in the proposed purple zones, a specific harvest-management plan would set out how the removal of the plantation trees will occur, how pests will be managed, and how to transition to appropriate permanent vegetation. We also consider that the current riparian controls in the NES-PF need to be more nuanced, to enable much larger riparian zones – to both minimise mobilisation of debris and enhance stream health.

Further to our suggestion that coupe harvesting be adopted immediately on soils at risk of extreme erosion, we propose that the NES-PF should be amended to apply coupe harvesting to orange and red zones within Tairāwhiti and Wairoa. As outlined in paragraph 29, our view is that an appropriate coupe is a maximum size of 40 hectares (with a minimum 'green-up' period of five years or canopy cover before harvesting adjacent coupes).

Three Forest Stewardship Council (FSC)-certified forestry companies that operate in the Tolaga Bay Area were convicted of environmental offences in 2018. We find it extraordinary that companies that have convictions for environmental offences and are responsible for environmental and property damage and loss of social licence have maintained FSC certification, despite the certification requirements that include specific environmental stewardship responsibilities. In our view, the ongoing certification of these companies substantially undermines the credibility of the FSC certification system.

Although FSC certification is independent and outside of the control of the New Zealand Government, we suggest the Minister may wish to write to the FSC seeking an explanation for this untenable situation.

## Land Ownership

Supporting productive whenua Māori Whenua Māori amounts to 234,871 hectares (20 per cent) of land in Tairāwhiti, and Wairoa. A relatively large number of owners possess fairly small portions of land, with the average size and allocation of a Māori land block being 51 hectares with 113 owner interests. Iwi, hapu and whānau have lost most of their productive lands.

78 per cent of whenua Māori in Wairoa and 88 per cent of whenua Māori in Tairāwhiti is in land-use classes 6, 7 and 8. The majority of this is within the Ngati Porou East Coast rohe, which has the highest concentration of whenua Māori in the country. For many decades

these landowners have pivoted and turned to each new ad-hoc government imperative for land use. The Government must now bring balance to their relationship and properly engage with Māori landowners in all aspects that impact on their land with expedited governance establishment processes, through the Māori Land Court, together with a reliable process for investing in development. The Government must also appropriately invest in whenua Māori to encourage the governmental priorities of increasing biodiversity in land-use change.

The Government's funding/investment into Māori land could then be leveraged to deliver the level and sustainability of development funding Māori land. The convergence of interests here, and at this time, is a true opportunity, not to be missed by the Government.

The land tenure system implemented through the now-defunct Native Land Act 1865 converted what was customary title of whenua Māori land into individual title, with multiple owners. This system has since perpetuated the unresolved issues of ungoverned lands, and inadequate management of whenua Māori. The passing of Te Ture Whenua Māori Act 1993 represented a major milestone in relation to Māori land tenure.

The Act's recognition of whenua Māori as a taonga tuku iho provided the driving force behind the Act's two primary principles: land retention and land utilisation. Still, questions have been raised about the way regulation and practice under the legislation have facilitated, contributed to or hindered land use.

The Māori Land Court administers Te Ture Whenua Māori Act by providing advisory services to Māori landowners, ensuring their decisions are signed off by the Court so they can occupy, develop, and use their land. Since the dissolution of the Department of Māori Affairs in 1989, and the shift of the Māori Land Court to the Ministry of Justice (and its predecessors), the Māori Land Court has been severely underfunded and understaffed.

This has resulted in the advisory service being unable to fulfil their role of processing the required applications and successions in a timely fashion. To truly realise the aspirations of Māori landowners to make decisions in a climate changing world, the Government must adequately resource the Māori Land Court.

**Strengthening biodiversity in land-use change;** The future landscape of Tairāwhiti and Wairoa must be a mosaic pattern of land use. Biodiversity and its life-supporting systems must complement and support diverse land uses, appropriate to the soils and catchment. Any production on erodible hill country must be sustainable forestry and pasture practice, and extremely erodible land and gullies must be retired from production.

To incentivise permanent indigenous forests, Aotearoa must develop and implement a biodiversity credit scheme, which would complement and counterbalance existing carbon markets. Such a scheme could direct private and philanthropic capital into positive biodiversity outcomes.

Establishing a **biodiversity credit scheme**[503] in the region will also promote the critical role of tangata whenua as kaitiaki for their environment, and testing and establishing methods of measuring standards can be based on region-specific ecosystems.

### Financial instruments and the Emissions Trading Scheme

The ETS is the major government economic instrument influencing forestry and land use in the region (and throughout Aotearoa New Zealand). The ETS forestry provisions as currently designed are focused on carbon sequestration and shorter time horizons and cannot deliver the biodiversity or longer-term land-use outcomes the community desires.

We do not agree with the argument for excluding reverting bush from the ETS, given the lack of other land-use opportunities (especially when land is also landlocked). Even when eligible, the cost of entry and administration often outweighs the benefits for Māori landowners.

Further, there is opportunity to better align government grant schemes with the ETS, to reduce capital barriers for Māori landowners. Access to capital can also be improved through issuing green bonds or facilitating easier access to philanthropic investment. To make better decisions around land use that can benefit future generations and help heal the land, we need to better integrate how the ETS incentivises different types of forests, and how other tools (such as grants, plans and regulations, and complementary incentives) can support desirable land-use change.

**Right tree in the right place:** "Right tree in the right place" was raised by many submitters as key to the successful utilisation of trees. Submitters said that this requires careful planning and a strong understanding of local land and ecosystems in order to be successful. They mentioned that this applies across plantation forestry, pastoral farming, and in waterway management.

### Land for Life: A Collaborative Approach

The Nature Conservancy (TNC) is partnering with the Hawke's Bay Regional Council (HBRC) to establish **Land for Life:** a collaboration between HBRC, TNC, farmers and the farming communities to reduce the region's erosion challenges, address climate change, improve freshwater quality and protect biodiversity.

Hawke's Bay is an important agricultural hub producing a variety of horticultural and pastoral products. However, it experiences accelerated rates of soil erosion, much of which is due to farming activities. Erosion of steep hillsides is leading to sedimentation of freshwater and

[503] https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/buying-selling-credits-market-information/what-are-biodiversity-credits

coastal waters, soil loss and habitat degradation, as well as negative impacts on communities and landowners.

Land for Life is supporting farmers to plant appropriate tree species in the right places to slow erosion, improve freshwater quality and build resilient farms. Paired with other regenerative agricultural practices, the partnership will support improvements in farm systems that are good for the farmer's bottom line and the environment.

**Land for Life's** local team of forestry, farming and financing specialists offer support to participating farmers to:

*Prepare and implement farm plans and visions; Maintain and enhance pastoral farming systems; Diversify and potentially increase revenue streams; Improve returns from marginal land; Support succession planning and debt reduction through improved incomes; Build climate-resilient farms with significant environmental benefits.*[504]

Since cyclone Bola hit this region, local tangata whenua have been predicting the events that have transpired, especially over the last 5 years in this region. Outside interventions that are not fit for purpose or based on local needs, aspirations and traditional knowledge prove again and again to be short sighted.

A te Ao Māori view and the application of these principles and practices has been recommended in the report to Government.  The TAMPPS model is based on traditional practices and its adoption in this region will address the challenges the region daces, and the operationalise the recommendations made to Government, in a region wide case study.

## A Statement on Whakapapa and Lore.

It is clear that non-Māori in the primary production sector [and indeed across all other industries] are increasingly attempting to capture and use Māori terms such as Kaitiakitanga within their business operations and marketing strategies.  Cultural misappropriation has overtaken assimilation in some areas.

Māori are perfectly positioned to be the change agents needed within the primary production sector. The following quote from Ngati Porou proud leader Api Mahuika.; "E tū ki te kei o te waka kia pakia koe e ngā ngaru o te wā" (Stand at the stern of the canoe and feel the spray of the future biting at your face), creates a perfect image on which to build this dialogue.

In order to understand traditional land use practices in the pre-colonial era and the impact colonisation and introduced laws had on Māori agriculture and economic development in

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[504] https://www.nature.org/en-us/about-us/where-we-work/asia-pacific/new-zealand/stories-in-new-zealand/land-for-life/

the immediate “Golden Years” of Māori agricultural and economic development, following first contact with Europeans, a comparative analysis on Lore as opposed to Law is required.

Justice Joe William summarised the key elements of both codes in his dissertation titled Treaty Signatories in a Post-Settlement Era in 2015 [and in following recitals over the next 5 years.][505]

This analysis allows us to better understand and manage the collision between two worlds and world views.

**The First Law** of Aotearoa New Zealand during the period 1200 to approximately 1840 was Kupe’s Law. This was a system of values and principles for the organisation and administration of kinship communities of Whanaungatanga across the entire country.

Whakapapa and Whanaungatanga held a central position within those kinship relationships and embedded in there were principles of Mana, which exemplified leadership and individual dignity. Also incorporated therein were behavioural controls defined by Tapu and sacredness, underpinned by Utu which was the obligation of reciprocity. Central to this system of law was consensus-based decision making which deferred to the Mana of the collective will. The principle of Mana-tiaki was also paramount therein.

**The Second Law** of New Zealand between 1840 and 1985 created a central authority devoid of kinship relationships where unrelated officials of European descent dispensed their own laws. This law promoted individual dignity and autonomy of its citizens, rather than upholding the Mana and integrity of the collective. Its focus was primarily economic development driven by colonial structures where social relationships amongst people were defined by contract, as opposed to Kupe’s law which was founded in the reverence and protection of Papatūānuku and the integrity of collective right to the benefits of land use – as opposed to ownership. Relationships with the environment under the second law of New Zealand were defined through the concept of property and individual ownership thereof.

This created an inevitable conflict between the first and second laws of New Zealand where the Treaty of Waitangi, signed between two nations, became a legal nullity with the rights of Māori becoming statutory only, and where the Crown became the sole arbiter of that statute and its own justice.

Native land titles were not justiciable except through statute which drove the extinction of many former tribalization structures of land title and guardianship. The critically important elements of Tikanga Māori within the indigenous tribes of New Zealand was considered a temporary expedience on a lineal path to annihilation and assimilation of an indigenous culture, within an ever demanding and dominant colonial flood.

During this period, the autonomous native districts that were promised under section 71 of the Constitution Act were never implemented.

[505] https://www.treasury.govt.nz/sites/default/files/2017-03/tgls-williams-slides.pdf

Through these processes Whanaungatanga was rendered redundant as a detriment to property rights the colonists wished to control. Collective well-being which was central to Whanaungatanga was removed as a driver of wealth and wages paid for labour took over. The central social control mechanism of Whanaungatanga provided within whānau, hapū and iwi was removed and replaced by a police system and a euro-centric Court, which dispensed its own laws in favour of its dominant culture agenda.

**The Third Law** of Aotearoa New Zealand, beginning in 1985 to the present day, is morphing into a new legal culture including tikanga in some cases. It's becoming mainstream. This is witnessed by the reinvention of the Treaty as a creature of Law and Treaty settlement processes developed by the Waitangi Tribunal. In common law a rediscovery of native title is evident within fisheries legislation and law governing the foreshore, rivers and water. In 1993 under the Ture Whenua Māori Land Act the Court is reinventing law which takes into account tikanga within Māori land management. Tikanga is also evident in environmental management within the Resource Management Act.

Whanaungatanga is slowly and painfully returning to Family law and within mainstream Justice. It is also becoming evident in mental health, intellectual property, trademarks and patents, which protect certain objects as cultural treasures.

So too is it becoming evident in historic places legislation and conservation, not only through access and use of the conservation state, which in some land mark cases now has legal personhood rights, but also through the recognition of indigenous rights to flora and fauna under the Waitangi 262 claim. Tikanga has also reached into legislation regarding burials and cremations with rulings in the Takamore case via the High Court.

All in all, after almost 200 years of colonisation, post settlement iwi are exercising more and more their public powers, via judicial review processes.

**The Grim Reality**

However - despite these incremental improvements, Māori today suffer.

- An imprisonment rate of 620 per 100,000 as opposed to non-Māori at 105 per 100,000.
- With a population ratio of 15 to 18% over 50% of the general prison population are Māori.
- 60% of youth in youth justice facilities are Māori.
- 60% of women in prison are Māori and,
- 60% of all children removed from their families via the criminal justice system are also Māori.

Overall Māori are:

- 3 times more likely to be arrested.
- 3.5 times more likely to be charged.

- 11 times more likely to be remanded in custody.
- 4 times more likely to be convicted and,
- 6.5 times more likely to be imprisoned [506]

This provides evidence that Māori are more policed and more heavily judged across New Zealand, despite the introduction of tikanga Māori in New Zealand's third system of Law. Age, class, and race remain the best predictors of [inevitable] imprisonment within the country.

This provides ample indication that European law, which, on its introduction of a European police system and individual property rights, where entangled therein are the long tentacles of colonisation, white privilege, annihilation and assimilation, have all had significant impacts on Māori and their ability to control and manage their land, to develop the unique agriculture and horticultural models and develop economic parity in a country where they now retain less than 6% of the land they held in 1840.

Despite this appalling history, in 2022 Whanaungatanga not only still lives, but its relevance and impact are increasing. An evaluation of treaty settlement processes in New Zealand, which for the Crown has been extraordinarily cheap, notes that most of the tribes who settled their claims lack the resources to remedy problems derived of colonial control and yet they are expected to.

There remains an unjust lack of partnership funding to enable them to better unleash their own transformative potential in the use of their own lands and resources and little confidence within the rural Māori community that a just transition to climate change will eventuate via the Crown Treaty partner.

Whanaungatanga based solutions have proven themselves to be highly credible and it is recognised that this must be a central component to success and equality, because its removal under Colonial Law has clearly been the central constituent in the creation of modern-day inequality and deprivation.

This paper, in the primary production sector, explores how to properly and adequately construct Treaty based partnership models which are based on traditional knowledge systems and values, incorporating therein contemporary farm management practices which can recalibrate the extractive and destructive industrial farming practices here in New Zealand. These no longer hold a social license for perpetuation locally, and which are in the main swimming against a tide of eco-responsibility demanded by climate change responsive consumer preferences, internationally.

Based on the appalling statistics and historical data within this paper, it is clear that the farming sector never had a cultural licence to operate it's colonial model from the outset.

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[506] October 2015 Māori Law Review - Can you see the island? – Justice Joseph Williams

Understanding the difference between lore and law, and the extended family constructs that underpinned the traditional practises around lore, highlights the distinctions and values that separate them one from the other. This can be extrapolated further in the section below.

**Comparative Analysis – principles and practices of land use and production.**

The comparative analysis below generalises some of the distinctions between European and Indigenous peoples' principles and practises as they relate to land use and primary production.

They are designed to prompt discussion on the subject.

There are infinite variations within European and indigenous peoples land use practises, particularly when non-indigenous people begin adopting agroecology and organic farming practises, however, the fundamental difference between indigenous and non-indigenous principles and practises remain.

This speaks to the issue of cultural identity of indigenous people being drawn from their kinship relationship to all animate and inanimate objects [including native flora and fauna] found within the natural living world.  The underlying premise here is that to **be indigenous** you have to **live indigenous,** drawing your identity, your privilege and your obligation from connecting with [in the case of Māori] Papatūānuku herself.

| BRITISH / EUROPEAN | INDIGENOUS / MĀORI. |
|---|---|
| **EXPLOITATIVE.** | **PRESERVATION** |
| **Money** | **Mana** |
| Profit driven enterprise.<br>Usually, single generation | cultural social enterprise<br>Intergenerational |
| One family | multiple whanau |
| Colonial values | indigenous values |
| Individual ownership | collective guardianship |
| Individual wealth creation | community wellbeing |
| resource extraction | resource protection |
| natural capital exploited | Te Taiao enhanced |
| **I own…………………..** | **We protect ……………..** |

# The Role of Science in Colonisation.

The impacts of science as a tool of colonisation on indigenous peoples were profound and continue to be felt today here on Aotearoa.

Māori groups continue to fight for their rights, reclaim their land, and revitalise their cultures in the face of ongoing challenges stemming from colonial legacies. Recognising and

addressing the historical and ongoing impacts of colonisation on indigenous peoples is crucial for achieving justice, equality, and respect for indigenous rights.

Science has historically been used as a tool of colonisation, often leading to severe impacts on indigenous peoples around the world. Scientific exploration and knowledge played a crucial role in justifying and perpetuating colonialism.

**Ethnographic Studies** were perhaps the genesis of what followed in the science space as this research methodology, driven by scientists and anthropologists, conducted ethnographic studies to study and document indigenous cultures.

However, these studies often objectified and exoticised indigenous peoples, reinforcing stereotypes and contributing to the perception of indigenous communities as inferior. This was profoundly evident here in Aotearoa with British Law makers and Governors such as Prendergast, Grey and others *[“Māori are savages, smooth the pillow of the dying race etc”].*

Based on this research with its racist bias, indigenous knowledge systems, languages, and traditions were devalued or erased in favour of Western scientific knowledge. All notions of esoteric knowledge and information that was not confined within the 3 principles of science were rejected. [refer to the section below].

**Scientific Racism:** During the era of colonialism, scientific theories emerged that attempted to classify and rank different races based on supposed biological and intellectual differences. These theories, such as Social Darwinism[507], provided a pseudo-scientific justification for European colonisation of indigenous peoples. Driven by ethno-graphics indigenous communities were often depicted as "primitive" or "savage" to legitimise their exploitation.

Following hot on the heels of this was **Assimilation and Cultural Genocide:**

Science was used here against Māori to enforce assimilation policies aimed at eradicating indigenous cultures and traditions. Māori children were forcibly removed from their families and sent to boarding schools, placed in State Care institutions, and prohibited from speaking their native languages or practicing their cultural customs, including traditional healing. This approach aimed to "civilise" indigenous peoples according to European standards, eroding their cultural identity and leading to the loss of traditional knowledge and practices.

**Terra Nullius:** The concept of terra nullius, meaning "*land belonging to no one*," was used to justify the seizure of indigenous lands by European powers. Much of the land taken in the South Island[508] during colonisation was based on this appalling concept, as was almost the whole of Australia. Indigenous peoples' established systems of land ownership and

[507] https://www.history.com/topics/early-20th-century-us/social-darwinism

[508] Miller, Robert J and others, 'Asserting the Doctrine of Discovery in Aotearoa New Zealand: 1840–1960s', Discovering Indigenous Lands: The Doctrine of Discovery in the English Colonies (Oxford, 2010; online edn, Oxford Academic, 1 Sept. 2010), https://doi.org/10.1093/acprof:oso/9780199579815.003.0008, accessed 22 June 2023.

governance were disregarded under this doctrine, as European colonisers claimed that the land was unoccupied or unproductive. This facilitated the displacement, dispossession, and marginalisation of indigenous communities.

The use of the term "unproductive land" [whenua Māori] is still used today to drive or justify tauiwi land use models and policies that are applied to whenua Māori, with no understanding of what cultural "products" are derived from such lands. The advent of mānuka honey, which utilised thousands of acres of such unproductive scrub on whenua Māori, is an example of shifts in such monocultural thinking, which ironically changed when they realised Māori controlled not only the "unproductive whenua" on which the honey was produced, but also the provenance story and brand name claimed by Comvita and other tauiwi honey producers.

**Resource Extraction:** Scientific exploration and exploitation of natural resources played a significant role in colonisation. Indigenous lands were often rich in valuable resources, such as minerals, timber, and agricultural land. Scientific expeditions were conducted to identify and extract these resources, leading to the destruction of indigenous ecosystems, displacement of communities, and loss of traditional livelihoods. Later, the introduction of the "profit motive" exponentially accelerated such losses.

## Western Science Research – Warts and all

The three principles that are often associated with the scientific method are empiricism, objectivity, and falsifiability. While these three have greatly contributed to scientific progress, it is important to be aware of the limitations and flaws associated with the scientific methodology. By acknowledging these limitations, scientists can continue to refine and improve their approaches, leading to a more robust and reliable scientific knowledge base.

The development [or revival] of a te Ao Māori based primary production system requires a review of western science and its shortcomings. A transcultural research design and methodology is required optimise the skills and knowledge sets from two [often disparate] world views.

**The 3 Principles.**

**Empiricism[509]:** This principle emphasises the importance of empirical evidence, which means that scientific knowledge is based on observations and measurements of the natural world. It involves gathering data through systematic observation and experimentation. Empiricism ensures that scientific claims are grounded in observable phenomena, allowing for the testing and validation of hypotheses.

[509] https://www.britannica.com/topic/empiricism

**Objectivity[510]:** Objectivity refers to the idea that scientific inquiry should be conducted without bias or personal prejudice. Scientists strive to approach their research with impartiality, following rigorous methodologies and avoiding subjective influences that could lead to distorted results. Objectivity helps to maintain the credibility and reliability of scientific findings.

**Falsifiability[511]:** Falsifiability is the notion that scientific hypotheses or theories must be formulated in a way that they can be tested and potentially proven wrong. A hypothesis is considered scientific if there are conceivable observations or experiments that could refute it. By subjecting hypotheses to rigorous testing, scientists aim to either support or reject them based on empirical evidence. Falsifiability promotes critical thinking and encourages the advancement of scientific knowledge through the elimination of incorrect or incomplete theories.

### The Flaws

**Subjectivity and Bias:** Despite efforts to maintain objectivity, scientists are not immune to personal biases, cultural influences, or preconceived notions. These subjective factors can sometimes affect the research process, from the formulation of hypotheses to the interpretation of results. Additionally, funding sources and publication biases can introduce external pressures that may compromise objectivity.

**Incomplete Knowledge:** Science is an ongoing process of knowledge accumulation, and our current understanding of the world is always subject to revision. As new evidence emerges, scientific theories and conclusions can be revised or overturned. The provisional nature of scientific knowledge means that our understanding is always evolving, and what may be considered "truth" in science is always subject to further investigation.

**Limitations in Falsifiability:** While falsifiability is a crucial aspect of scientific inquiry, not all scientific claims can be easily subjected to direct testing or falsification. Some fields, such as historical sciences or complex systems research, may face challenges in designing experiments that can definitively prove or disprove hypotheses. This can lead to debates and disagreements within the scientific community.

**Ethical Considerations:** The scientific method itself does not inherently address ethical concerns. Ethical considerations, such as the use of human or animal subjects in research, the potential for harm, or the equitable distribution of benefits, require additional frameworks beyond the scientific method to ensure responsible and ethical practices.

[510] https://plato.stanford.edu/entries/scientific-objectivity/

[511] https://www.britannica.com/topic/criterion-of-falsifiability

### Esoteric knowledge vs Western Science

Esoteric knowledge offers unique perspectives and insights into subjective experiences, spirituality, and metaphysics. Western science has its own strengths in objectively understanding and explaining the physical world, but it is not holistic, and it has unfortunate limitations. When viewed in context, with well documented scientific racial bias, science's limitations can shift from a flaw to an unethical practice, especially where there is no indigenous ethics oversight.

To advance a transcultural research process, which creates a new science excellence, it is important to recognise that, while the two systems of knowledge serve different purposes, they can coexist and offer complementary perspectives on the **nature of reality.**

Indigenous knowledge in this space provides a unique and holistic foundation on which to build an advanced science research system. This system can facilitate science validating Mātauranga Māori, [in the first instance] and then enhancing it to produce high impact and sustainable well-being.

The nature of reality is a complex and philosophical question that has been pondered by thinkers, scientists, and philosophers for centuries. Different perspectives and theories exist, and it is important to note that there is no universally accepted answer. However, a brief overview of some key viewpoints includes:

**Physical Realism[512]:** This perspective holds that reality exists independently of our perceptions or observations. It suggests that the physical world, including matter and energy, is fundamentally real and objective. According to this view, the properties and behaviour of objects and phenomena are determined by the laws of physics.

**Idealism[513]:** In contrast to physical realism, idealism theorises that reality is primarily composed of ideas, consciousness, or the mind. According to this view, reality is subjective and depends on our perceptions, thoughts, and interpretations. It suggests that the external world is a product of our minds or consciousness.

**Dualism[514]:** Dualism proposes that reality consists of two distinct categories, typically mind and matter. It suggests that the mind and consciousness are separate entities from the physical body or the material world. This perspective raises questions about the relationship between the mental and physical realms and how they interact.

**Materialism[515]:** Materialism asserts that reality is ultimately reducible to physical matter and its interactions. It suggests that everything in the universe, including our thoughts and

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[512] Ellis, B. (2005). Physical Realism. Blackwell Publishing.

[513] Sprigge, T.L.S.. Idealism, 1998, doi:10.4324/9780415249126-N027-1. Routledge Encyclopedia of Philosophy, Taylor and Francis, https://www.rep.routledge.com/articles/thematic/idealism/v-1.

[514] Robinson, Howard, "Dualism", The Stanford Encyclopedia of Philosophy (Spring 2023 Edition), Edward N. Zalta & Uri Nodelman (eds.), URL = <https://plato.stanford.edu/archives/spr2023/entries/dualism/>.

[515] https://www.britannica.com/topic/materialism-philosophy

consciousness, can be explained in terms of physical processes and the laws of nature. This view often aligns with a scientific and reductionist approach.

**Quantum Mechanics[516] and Uncertainty:** Quantum mechanics, a branch of physics, describes the behaviour of particles at the smallest scales. It introduces concepts such as superposition and uncertainty, challenging classical notions of reality. Quantum mechanics suggests that particles can exist in multiple states simultaneously until measured or observed, leading to debates about the nature of reality and the role of observation.

It's important to recognise that these perspectives are not mutually exclusive, and there are variations and combinations of these views. The nature of reality remains a subject of ongoing exploration and discussion in various disciplines, including philosophy, physics, and cognitive science.

The nature of reality for indigenous people is markedly different to that of tauiwi. It has an esoteric foundation.

Esoteric knowledge supports the development of an advancement in science thinking and excellence. If science has been used as a tool of colonisation which has contributed to inequality and indigenous socio-economic deprivation, a re-calibration of contemporary science, drawing on the strengths of esoteric knowledge and western science, can begin to address this unfortunate reality.

Esoteric knowledge often delves into the realms of metaphysics, spirituality, and the inner workings of the human psyche. It seeks to explore the deeper meaning of existence, the nature of consciousness, and the interconnectedness of all things.
While Western science primarily focuses on empirical observation, experimentation, and objective analysis of the physical world, esoteric knowledge aims to uncover profound truths about the nature of reality, which may transcend conventional scientific explanations.

**Generally** - esoteric knowledge refers to a body of teachings, practices, and insights that are often considered mysterious, hidden, or specialised. In many cases this knowledge is transferred orally and is not written down as a means of protecting its sacredness. This is especially true with regards Mōhiotanga and the deeper knowledge sets within Māoridom. It is considered by non-indigenous people and being associated with spiritual, mystical, or occult traditions and encompasses various disciplines such as astrology, alchemy, divination, esoteric philosophy, and mysticism.

For Māori, it is simply an advanced knowledge system that is born of identification and connection to whenua, Atua and whānau in the widest sense. Information, insights, guidance and support are provided within a unique and symbiotic relationship with all things within the natural living world.

[516] https://www.britannica.com/science/quantum-mechanics-physics

The idea of superiority between esoteric knowledge and Western science is subjective and depends on the perspective and context. It is important to note that both systems of knowledge serve different purposes and address different aspects of human understanding.

### Subjectivity and Intuition

Esoteric knowledge often places a strong emphasis on personal experience, subjective perception, and intuitive understanding. It can often focus on the distinction between qualitative and quantitative research methodologies and data. [refer to the section on research methodologies within this paper]. It recognises that certain aspects of reality may be difficult to quantify or measure objectively.

In contrast, Western science relies heavily on the scientific method, which emphasises objectivity, repeatability, and quantifiable data.

However, esoteric knowledge argues that certain phenomena or insights can only be accessed through subjective experiences, inner exploration, and intuitive faculties.

**Holistic Approach:**

Esoteric knowledge takes a holistic approach to understanding the world, considering the interplay of various factors and dimensions. It acknowledges the interconnectedness of mind, body, and spirit, as well as the influence of subtle energies, symbolism, and archetypes.

Western science, on the other hand, adopts a reductionist approach, breaking down complex systems into smaller parts to study them in isolation. Esoteric knowledge argues that this reductionist approach may overlook essential aspects of reality and limit our understanding of the larger interconnected web of existence.

Māori often refer to the scientists who want to understand the source of the song of the Tui, and dissect the bird to ascertain the data they seek – thereby killing the bird and the song. Māori simply celebrate the song and understand its language, speaking with it and to it in that process. Bio-acoustics and cross-species communication are all well understood and practiced by indigenous people worldwide.

**Transcendence of Limitations:**

Esoteric knowledge seeks to transcend the limitations of the physical world and tap into higher states of consciousness or spiritual realms. It explores concepts such as enlightenment, spiritual awakening, and mystical experiences. Western science, by contrast, focuses on the study of the material world and generally does not incorporate such transcendental aspects. Esoteric knowledge claims that by accessing these higher states of consciousness, individuals can gain profound insights, and a deeper understanding of the nature of reality.

**Te Ao Māori Principles and Practices**

It is irrefutable that the entrepreneurial primary production capability and output, witnessed during the golden years of Māori development, were deeply rooted in the understanding and the application of esoteric knowledge coupled with adaptation to and use of Western technology and the introduction of new plant and animal species.

This profoundly successful model outpaced the British agricultural and primary production system across all indices. More importantly, the TAMPP model generated enhanced well-being within tribal communities whilst operating within strict mana tiaki boundaries. When viewed through a modern agricultural lens, these golden year production systems had:

- Short supply chains.
- Extensive circularity.
- High levels of sustainability.
- Strong social and cultural cohesion and licence.
- Regenerative qualities and,
- Were extremely profitable.

These production systems and the distribution and marketing of that primary produce formed the very foundation of New Zealand's agricultural export, in the mid-1850s.

The Model exemplified the use of traditional knowledge [which was and must be recognised as a unique science in its own right,] as well as western science, to achieve sustainable well-being.

That well-being was not simply provided to tribal communities, it was extended to settler communities who, without that support, would never have survived their migration to Aotearoa.

The key to the success within this historical model was the understanding of the principles the practise and the meaning, of tangata whenua. To be derived from and obligated to Papatūānuku, the well-being of the land equated to the health and well-being of the people.

Colonial exploitation and individual land and resource ownership destroyed that concept, and it was founded and fuelled by research racism to the inevitable and overall detriment of all who live within Aotearoa / New Zealand today.

# The Treaty of Waitangi.

The Signing of the Treaty of Waitangi in 1840 is as relevant today as it was when it was originally signed. In recalibrating primary production in Aotearoa so that it can engage with a re-establish [superior] TAMPP model, developed by Māori in the 1850s, the Treaty principles will apply. This is due to the fact that the Treaty, which was a signed contract between two nations, defines government policy and how the Crown must interact with indigenous people within New Zealand.

Waitangi Day 1934[517]

While the awareness of the treaty and surrounding events is growing, there remains a significant amount of people within mainstream society in New Zealand that know little about the treaty, how it was formulated and the influences that led to its signing. The next section of this paper explains it in significant detail.

In February 1840, an agreement was made between the British Crown and the Māori chiefs at Waitangi, Waimate, and Mangungu. This agreement was based on the proposals that were presented to the Māori chiefs by Hobson and his agents, who read te Tiriti and explained the proposed agreement verbally. The Māori chiefs who signed the agreement did so with the understanding that they were consenting to the establishment of a new shared authority in their lands, where previously all authority rested with the Rangatira on behalf of their Hapū.

Under the agreement, the Māori chiefs welcomed Hobson and agreed to recognise the Queen's kāwanatanga, or authority. They saw the Governor's presence as a significant step in their developing relationship with the Crown. In recognition of the changing circumstances since He Whakaputanga had been signed in 1835, they accepted an increased British authority in New Zealand. Most importantly [in context] the British explicitly asked for and the Māori chiefs accepted the Governor's authority to control settlers and maintain peace, and to protect Māori interests. It also appeared to make Britain responsible for protecting New Zealand from foreign powers.

[517] Robert Percy Moore, Public domain, via Wikimedia Commons

The Māori chiefs who signed te Tiriti were aware of Britain's power and recognised that they were consenting to the establishment of a new authority in their lands. They also recognised that questions of relative authority would inevitably arise in situations where the Māori and European populations intermingled, and that these questions would have to be negotiated over time on a case-by-case basis.

Many Māori chiefs were prepared to welcome this new British authority because they sought and received assurances that they would retain their independence and chiefly authority, and that they and the Governor would be equals. They did not view kāwanatanga as undermining their own status or authority, but rather as a means of protecting or enhancing their rangatiratanga, or chiefly authority, as contact with Europeans increased.

However, the British viewed the agreement differently. Britain's intention, as set out in Normanby's instructions to Hobson, was for Māori to cede sovereignty to the Crown and become subject to British law and government.

Article 1 of the English text reflected that intention, but it was never conveyed to the Māori chiefs. Hobson was instructed to emphasise the protective aspects of the Treaty. Neither he nor his agents explained Britain's understanding of what Crown acquisition of sovereignty would mean for Māori. Nor was the Crown's intention of securing a monopoly on the right to purchase lands from Māori, this was, through translation, portrayed as a first right of refusal concept.

The Māori chiefs were presented with an arrangement that explicitly guaranteed their independence and full chiefly authority while seeking the Crown's power of kawanatanga, which was explained as the authority to control settlers. This was an arrangement that the Māori chiefs were prepared to accept and welcome.

The Treaty's meaning and effect can only be found in what Britain's representatives clearly explained to the Māori chiefs and what the Māori chiefs then assented to. It is not to be found in Britain's unexpressed intention to acquire overarching sovereign power for itself and for its own purposes.

Before signing te Tiriti, the Māori chiefs had feared that the Governor would be above them, that British soldiers would come, that they would be swamped by settlers, and that they would lose their land. However, based on the clear and consistent assurances they received, te Tiriti seemed to offer them peace and prosperity, protection of their lands and other taonga, the return of lands they believed Europeans had wrongly claimed, security from mass immigration and settler aggression, protection from the French, and a guarantee of their ongoing independence and rangatiratanga – all in return for allowing the Governor a limited authority.

Many in Aotearoa are unclear about the signing of the Treaty, the events leading up to it, the world views and agendas of the two peoples that signed it, the reasons for the, [often heated], disagreements between Māori and Pākehā over its meaning and implications and

its importance in the relationship between Māori and the Crown. This section will provide insight into these issues.

In order to understand the importance of the Tiriti signing in February 1840, it is crucial to have a deep understanding of the entities involved and their connections with each other. This includes comprehending their distinct legal and administrative frameworks, the challenges they faced during their previous interactions, and their intentions and aims during the negotiations that led to the Treaty's signing.

The Māori and British had different legal and authoritative frameworks, with the Māori system based on interconnected but independent hapū, while the British system was centred on a single, overarching sovereign power held by Parliament.

The Māori systems of law and authority faced increasing challenges in the early 1800s due to the rising numbers of whalers, traders, missionaries, runaway convicts, and other newcomers to New Zealand.

Moreover, as French political and commercial interests in the region grew, the Māori felt compelled to align themselves with Britain and sought British protection against perceived French threats. In 1831, 13 Rangatira petitioned King William IV, requesting British protection against the perceived threat of a French invasion, and asked the King to control troublesome British subjects who might otherwise face the wrath ('te riri') of the Māori people.[518]

## The Declaration of Independence of the United Tribes of New Zealand

Examining He Whakaputanga o Te Rangatiratanga o Nu Tireni (1835) with this lens provides great insight.

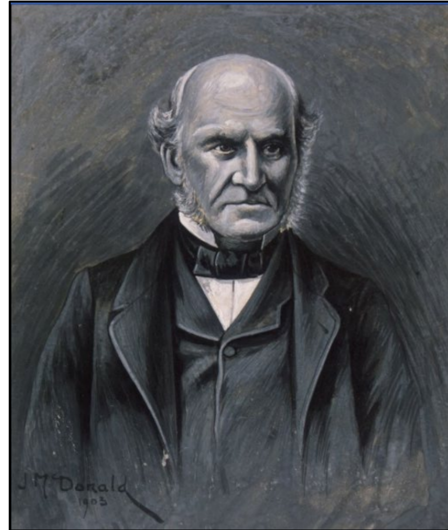
On the 28th of October 1835, 34 northern Rangatira signed He Whakaputanga o te Rangatiratanga o Nu Tireni / as the Declaration of Independence of the United Tribes of New Zealand at the home of James Busby in Waitangi.

He Whakaputanga was a statement made by Rangatira in response to an apparent external threat to their authority. They emphatically declared that Rangatiratanga, Kīngitanga, and Mana over their territories rested solely with them on behalf of their hapū.

They stated that no one could enter their territories and make laws, nor could anyone exercise any government function unless appointed by them and acting under their authority. The declaration also established that the Rangatira would meet annually at Waitangi to make their own decisions regarding justice, peace, good order, and trade involving Europeans and Māori-European relationships within their territories.

[518] Document A16, app 6; doc A16, p 175 ; doc B10, p 64

They acknowledged their friendship with Britain and the trading benefits it brought and renewed their request for British protection against threats to their authority, in exchange for them protecting British people and interests in their territories.



James Busby[519]

The declaration was a response to a specific situation that arose in early October 1835 when Busby received a letter from Baron Charles de Thierry, who claimed sovereignty and large tracts of territory in Hokianga. Busby called the Rangatira together and proposed that they respond to de Thierry's claim by declaring their independent statehood.

However, there was also a broader context [and agenda]. Busby was sent to New Zealand to advance British interests, particularly by controlling disorderly British subjects, protecting orderly ones, and fostering goodwill between Britain and Māori. Since there was no legal authority over anyone in New Zealand, Busby aimed to achieve his goals by working with and influencing Māori leaders. He intended to establish a congress of Rangatira to make laws for all people in the north of New Zealand and adjudicate disputes, which he believed would allow Britain to establish almost complete authority over the north while remaining consistent with its recognition of Māori independence.[520]

However, Māori had their own systems of law and authority that were based on autonomous hapū. Rangatira were important leaders and representatives, but their ultimate duty was to serve their hapū and atua. The Māori legal system was based on the principles of tapu and utu, which were interpreted and applied by Rangatira and Tohunga. While hapū had autonomy, they had mutual obligations and often acted together with other related hapū. This system of political authority in the Bay of Islands and Hokianga was based on a combination of hapū authority and autonomy, close kinship ties, and the ability to act in concert with others.

Busby hoped to establish a congress that would have the power to make laws for all, but this would require Rangatira to set aside hapū interests and agree to be bound by collective decisions. When Busby called Rangatira together to discuss de Thierry's intentions, he saw an opportunity to declare the existence of the congress while dealing with the immediate threat of de Thierry. He Whakaputanga used the term 'Rangatiratanga' to mean 'independence' and 'Wenua Rangatira' to mean 'independent state'. They translated 'all

[519] By McDonald, James Ingram, 1865-1935 - Alexander Turnbull Library, reference: A-044-008, Public Domain, https://commons.wikimedia.org/w/index.php?curid=1695870

[520] Document A17, pp 16–17; doc A18, p 54 ; doc A11(c), pp 3–4 ; doc A21, pp 34–36

sovereign power and authority' as 'ko te Kingitanga ko te Mana i te wenua', law as 'ture', and 'any functions of government' as 'Kawanatanga'.[521]

He Whakaputanga used different terms to refer to the gathering of Rangatira, including 'to matou huihuinga', 'te Wakaminenga o nga Hapu o Nu Tireni', and 'te wakaminenga o Nu Tireni'. Additionally, it used the term 'te runanga ki Waitangi' to refer to the proposed future gatherings at Waitangi. None of these terms implied that all sovereign power would rest with Rangatira only "in their collective capacity", which was Busby's intention. The King was asked to be the "Matua" or parent to the Rangatira and protect them against threats to their "Rangatiratanga". The declaration was a clear assertion of the signatories' authority over their territories.[522]

As the proposed annual hui never occurred, 'hapū autonomy remained intact'.8 This left the signatories with 'a form of sovereignty and independence that was consistent with hapū autonomy'.9 Because there was no established legislative body with authority over all of New Zealand at the time, Britain's reaction to He Whakaputanga essentially acknowledged the sovereignty of Māori organized into individual tribes.[523]

He Whakaputanga was an "innovative declaration of Indigenous power" that formally asserted the independence of Aotearoa as a "Māori state" where "power resided fully with Māori and … foreigners would not be allowed to make laws"[524].

In He Whakaputanga, Rangatira explicitly stated that they alone would have the power to create laws within their territories and that no other individual or group would be permitted to do so without their authority and in accordance with their laws and decisions.

Busby intended for sovereignty to be held collectively by the Rangatira, and for the proposed assembly, te Whakaminenga, to have the power to make laws that were binding on the hapū of signatory Rangatira. However, this intention was not reflected in the Māori translation. Busby later claimed in unpublished personal writings that he had informed the Rangatira of his intentions, but they had explained that it would be impossible to bind all of them to majority decisions, as hapū would continue to act independently after the signing of He Whakaputanga, just as they had done before.

In the view of the Waitangi Tribunal, article fours' description of the king as 'Matua' did not imply British superiority *except* in international affairs, and there the request was not for Britain to usurp Māori authority but to foster it and protect it from foreign threat.

The Rangatira who signed he Whakaputanga had previously sought to align with Britain for exactly that purpose, Busby later sought to present the article as a request that New Zealand be placed under Britain's protection, in an arrangement that would see British

[521] He Whakaputanga me te Tiriti - The Declaration and the Treaty The Report on Stage 1 of the Te Paparahi o Te Raki Inquiry Wai 1040

[522] Submission 3.3.33, pp 5, 10, 45

[523] Ibid, pp 38–39

[524] Archives New Zealand, 2021

officials carrying out the functions of government under the nominal authority of a Māori legislature, which would enact laws proposed by the British.[525]

However, his own political motivations and cultural biases influenced his response, as he was concerned about conflicts between different Māori subtribes and the potential for violence.

Britain's initial reaction to the declaration suggested that they did not consider themselves bound by Busby's actions. They had already acknowledged the independence of Māori subtribes and even extended an offer of friendship and alliance to Bay of Islands Māori in 1831. The official response in 1836 by Lord Glenelg, the Secretary of State for War and Colonies, did not go beyond this, and only tentatively indicated a willingness to protect Māori independence.

Between 1836 and 1837, there were instances of tribal conflict, and some Rangatira lost trust in Busby's residence as a safe place to convene. As a result, Busby was unable to call all northern leaders together at once. To the British, this appeared to be a failure of te Wakaminenga, as there was no supreme legislature in operation and no Māori authority capable of maintaining order from their perspective.

Nevertheless, the hapū remained in control of their territories, and they continued to abide by their own system of law, both in dealing with their own people and with Europeans. They carried out taua muru against Europeans who violated tapu or failed to fulfil their obligations as hosts. Hapū acted independently or cooperated based on what served their interests and atua, as dictated by tapu.

In the South Pacific, the Colonial Office saw little reason for Britain to expand its formal empire as trade and commerce there did not require it. The presence of missionaries and their opposition to colonisation, as well as the sense that the penal colonies in Australia were sufficient British representation in the region, also played a role. In contrast, colonial officials in New South Wales were concerned that violence by British ship owners against Māori could disrupt trade with New Zealand and result in retaliation.

New South Wales, being the closest establishment of British judicial authority to New Zealand, attempted to exert some form of control of the actions of British citizens in New Zealand.

Governor Philip Gidley King issued an order in 1805 following an incident where a British ship's captain fired upon Māori that was protective of Polynesian seafarers in New South Wales. It was explained that it was 'of the utmost consequence to the interest and safety of Europeans frequenting those Seas, and more particularly the South Sea Whalers, that these people should suffer no ill Treatment'.[526]

[525] For Busby's intentions, see doc A11(a), vol 4, pp 1356–1362; Busby to Bourke, 26 January 1836, qMS 0345, ATL, Wellington ; doc A19, pp 45–46 ; doc A17, pp 60–61.
[526] Sydney Gazette and New South Wales Advertiser, 26 May 1805, p 1

Governor Lachlan Macquarie noted that the unjust behaviour of British sailors in New Zealand had at times led ‘to the indiscriminate Revenge of the Natives of the said Islands, exasperated by such Conduct’, and that this in turn had greatly endangered ‘further Trade and Intercourse with the said Islands’.[527]

The next year, Macquarie gave another directive that called New Zealand a "dependency" of New South Wales. However, Macquarie's orders were not legally sound as New Zealand was not under Britain's authority, which was clarified by the Murders Abroad Act 1817.

This act explicitly listed New Zealand as one of the "Countries and Places not within His Majesty's Dominions." Although the Imperial Acts of 1823 and 1828 established New South Wales courts to handle crimes committed in New Zealand, they were also ineffective unless the offenders returned or were brought to British territory. It was evident that gaining control over New Zealand would require negotiations with Rangatira.

The *Elizabeth* affair of 1830 however, had such major ramifications that it prompted the British decision – urged by New South Wales – to appoint a diplomatic representative. The captain of the Elizabeth transported Te Rauparaha’s war party to Banks Peninsula in exchange for a cargo of flax and was complicit in luring a Rangatira on to the Elizabeth with the promise of muskets only to be ambushed and killed by Ngati Toa warriors.

The missionaries were worried that this incident would give Māori the wrong impression about the consequences of interacting with Pākehā.

It highlighted the fact that there was a "judicial black hole" in New Zealand.” Captain Stewart and his crew were brought to trial in New South Wales, but they were not found guilty because the testimony of the Māori involved in the incident was considered unreliable due to their status as "heathens".[528]

In 1831, a French warship's visit to New South Wales coincided with a petition from Bay of Islands Rangatira to King William IV. They requested protection from the French and control over British subjects in New Zealand.

James Busby, who arrived as British Resident in May 1833, carried the King's response, which promised to regulate the behaviour of British subjects in New Zealand. However, Busby had no legal authority, military power, or police force, making him essentially a "man-of-war without guns."[529]

Busby's dispatch in June 1837 exaggerated the impact of uncontrolled British settlement on Māori population,[530] and on that basis, Charles Glenelg, the British Secretary of State for

[527] Ibid, 11 December 1813, p 1

[528] https://nzhistory.govt.nz/culture/Māori-european-contact-pre-1840/captain-stewart-and-the-elizabeth

[529] https://nzhistory.govt.nz/james-busby-arrives-as-first-official-british-resident

[530] Document A11(a), vol 4, pp 1368–1372 ; Busby to Bourke, 16 June 1837, qMS 0345, ATL, Wellington

War and the Colonies, believed that organised colonisation would be better than the state of affairs presented in Busby's report.

The missionaries were against any intervention beyond their work, causing an impasse in 1838. Hobson suggested creating "factories" to have limited sovereignty over territories where British settlers were concentrated,[531] which became the preferred option. However, in late 1838, Glenelg appointed a British Consul instead.

Edward Gibbon Wakefield urged the New Zealand Company ships to set sail for New Zealand, believing that possession was nine-tenths of the law. In response, the British Government dispatched Hobson to follow the Company's first ship, the Tory, whose passengers intended to purchase land and prepare the way for settlers. In August 1839, the new Secretary of State for War and the Colonies, Lord Normanby, allowed Britain to acquire sovereignty over the entire country for the first time.

Capt. William Hobson[532]

In 1840, William Hobson arrived in New Zealand with instructions to negotiate with the Māori to recognize the Queen's authority over any part of the islands they were willing to place under British rule.

After landing in the Bay of Islands, Hobson proclaimed himself Lieutenant-Governor and extended the boundaries of New South Wales to include New Zealand. He invited Rangatira to a meeting at Waitangi, where the Treaty of Waitangi was drafted and translated into Māori as te Tiriti o Waitangi in May 1840.

Hobson declared British sovereignty over the North Island through cession and the South Island through discovery. Hobson had discretion in consultation with New South Wales Governor George Gipps to negotiate the recognition of British sovereignty over any parts of the islands.

However, Hobson's primary mission was to establish British sovereignty over the whole of New Zealand. While protecting its imperial interests was Britain's main motive, it also aimed to control the land trade and prevent private companies from setting up a colonial government.

The British government clearly and consistently expressed the view that, in achieving their objectives, they had what Glenelg called ‘no legal or moral right to establish a Colony in New Zealand, without the free consent of the Natives, deliberately given, without Compulsion, and without Fraud’.[533]

[531] He Whakaputanga me te Tiriti - The Declaration and the Treaty The Report on Stage 1 of the Te Paparahi o Te Raki Inquiry Wai 1040

[532] https://commons.wikimedia.org/wiki/File:WilliamHobsonGovNZ.jpg

[533] Wai 1040 Waitangi tribunal report 2014 Document A21, pp 44–45

Although obtaining consent was stated as a requirement, the practical implementation of it was left to Hobson, the official present in New Zealand, to determine whether the Māori had given their consent or not.

### Drafting of the Treaty

Hobson's initial draft of the Treaty, which was based on notes taken by his clerk James Freeman, presented a limited British perspective of the agreement. There is no evidence to suggest that Hobson was given a draft Treaty by Normanby or Gipps. Instead, clear instruction was given by both and the similarity of text in a Treaty drafted by Gipps in early February 1840 and the Treaty that was signed in Aotearoa bears this out.

To compare the British intentions behind the Treaty of Waitangi with other relevant documents, examining the 1825 Sherbro Treaty as well as Normanby's August 1839 instructions and Gipps's unsigned Sydney Treaty is required.

The Sherbro Treaty provides insight into Britain's international Treaty-making agenda with indigenous peoples. There are notable differences between the two treaties, but it is quite clear what the underlying mindset of Britain and its citizens was with regards to colonising indigenous territories and their peoples.

Colonisation and the 'benefits' it brought to indigenous people was viewed as an inevitability and the laws, customs and practices of indigenous people were viewed in a rather patronising manner. An example of this can be seen in Normanby's instructions to Hobson where he states, 'until they can be brought within the pale of civilized life, and trained to the adoption of its habits, they must be carefully defended in the observance of their own customs, so far as these are compatible with the universal maxims of humanity and morals'.[534]

An excerpt from the Sherbro Treaty reads:

"King of Sherbro [et al] for them, their heirs and successors for ever ceded, transferred, and given over, unto his said Excellency Charles Turner, Governor of the said Colony of Sierra Leone, and his successors, the Governors of the said Colony for the time being, for the use and on the behalf of His Majesty the King of Great Britain and Ireland, and his successors, the full, entire, free, and unlimited right, title, possession, and sovereignty of all the Territories and Dominions to them respectively belonging, being situate [geographical description] ; together with all and every right and title to the navigation, anchorage,

[534] The Marquis of Normanby to Captain Hobson, 14 August 1839,
BPP, 1840, vol 33 [560], p 40 (p 88)

waterage, fishing, and other revenue and maritime claims in and over the said Territories, and the rivers, harbours, bays, creeks, inlets, and waters of the same."[535]

It is important to have this text in mind when considering the Treaty of Waitangi, the above text clearly shows that Britain and its people were interested in total control of the resources of the indigenous people they signed these treaties with.

It goes on to grant to the people listed on the Treaty and "the other native inhabitants of the said Territories and Dominions, the protection of the British Government, the rights and privileges of British subjects, and guaranteeing to [list of names] and the other native inhabitants of the aforesaid Territories and Dominions, and to their heirs and successors for ever, the full, free, and undisturbed possession and enjoyment of the lands they now hold and occupy".

As we know The Treaty of Waitangi also has the same language in it. What is also very notable is that even after the signing of the Sherbro Treaty, the indigenous people of Sierra Leone continued to suffer loss of lands, autonomy, freedom and genocide at the hands of the British.

Lord Normanby, the British Secretary of State for the Colonies, approved the plan to annex New Zealand and sent Hobson with detailed instructions on how to proceed. He gave Hobson a broad outline of the need for a Treaty, the way existing purchases by the settlers were to be dealt with and gaining Māori approval for a cession of sovereignty.

He confirmed that the British Government had recognised New Zealand as "a sovereign and independent state"[536] and insisted that there was no intention to seize the entire country. Instead, Hobson was to acquire "the free and intelligent consent of the Natives according to their customary usages" for "the recognition of Her Majesty's sovereign authority over the whole or any part of those islands which they may be willing to place under Her Majesty's dominion."[537]

Despite this insistence, Normanby also wished to ensure that a monopoly on land acquisition was created for the benefit of Britain's colonising citizens.

The Crown has highlighted this as a key difference in intent of the British governing body at home and their representatives in the colonies. They have contended that British government already had an empire to deal with and showed minimal interest in expanding it, at the time of the drafting and signing of the Treaty, to include Aotearoa and its indigenous inhabitants. Its representatives on the ground in New Zealand and settlers that followed clearly had other ideas, as history has shown.

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[535] He Whakaputanga me te Tiriti - The Declaration and the Treaty The Report on Stage 1 of the Te Paparahi o Te Raki Inquiry Wai 1040 p 510

[536] The Marquis of Normanby to Captain Hobson, 14 August 1839,
BPP, 1840, vol 33 [560], pp 37–38 (pp 85–86)

[537] https://nzhistory.govt.nz/people/lord-normanby

The Waitangi Tribunal in 2014 was of a different opinion, “Our view is that Britain was by no means a reluctant imperialist – it had long seen New Zealand as part of its de facto realm and was prepared to ratchet up its level of official involvement when events on the ground necessitated it.”

New South Wales Governor George Gipps was Hobson's immediate superior who was to provide further guidance on his journey to New Zealand. When the New Zealand Company, and a consortium of Sydney speculators led by William Wentworth, claimed around 8 million hectares each[538], (almost two thirds of New Zealand's entire land area), the British government intervened to prevent this by asserting sovereignty over New Zealand, and including it under Gipps' jurisdiction as governor of New South Wales and New Zealand.

In 1840, Gipps declared all previous and future land purchases in New Zealand invalid[539] unless they were approved by the Crown and drafted a Treaty that he attempted to have signed by Rangatira who were visiting Sydney in February of that year to negotiate land deals with wealthy speculators.

There are similarities in the Gipps Treaty and the one that was eventually signed, the marked differences being that his was only in English, declared that the Rangatira gave up ‘absolute Sovereignty in and over the said Native Chiefs, their Tribes and country’, and fully established the pre-emptive right of the Crown to be the sole purchaser of whenua Māori.[540]

In return, the benefit Māori from the sale of the whenua was the funds received were to be spent on “their future education and instruction in the truths of Christianity”. Gipps gave them 10 sovereigns each and told them to come back the next day. [541]

Unsurprisingly, not having the Mana to sign on behalf all Māori in Aotearoa and viewing that the ‘benefits’ of signing were minimal at best, the Rangatira did not return and instead continued to negotiate with the speculators. This deal was quashed by Gipps, earning the eternal enmity of William Wordsworth.

### Translation of the Treaty

### English Version

Hobson's initial draft of the Treaty reflected the British perspective, portraying the Crown as reluctantly intervening with protective intentions.

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538 https://en.wikipedia.org/wiki/William_Wentworthgip

539 https://nzetc.victoria.ac.nz/tm/scholarly/tei-Rus01Hist-t1-body-d5.html

540 https://nzetc.victoria.ac.nz/tm/scholarly/tei-Rus01Hist-t1-body-d5.html

541 https://nzetc.victoria.ac.nz/tm/scholarly/tei-Rus01Hist-t1-body-d5.html

The Treaty had three articles, with the first one stating that Māori would surrender their sovereignty.

Article 2 required Crown pre-emption, but Busby added the guarantee of Māori lands, forests, fisheries, and other properties.

Article 3 granted Māori the same rights as British subjects without the obligation to obey British laws.

However, the English text aimed to make Māori British subjects, which required applying British law and order. British authorities believed that British rule would enhance Māori welfare and civilization, aligning with settlement expansion and imperial economic enterprise. In 1839, Hobson believed that acquiring sovereignty would bring 'blessing of civilization and liberty'[542]

The English text had a preamble that emphasised the Crown's desire for sovereignty and its protective impulses due to the presence of British settlers, lack of British laws, and the need for a government.

The primary objective of this British government was said to be to protect both Māori and settlers and to keep the settlers in check.

It was unclear whether Māori would continue to exercise authority over land and people despite the guarantee of "undisturbed possession" of their properties. However, Hobson later promised to protect Māori custom in what is known as the "fourth article".

During the Treaty signing ceremony, Catholic Bishop Jean-Baptiste Pompallier interrupted the proceedings by making a request when Henry Williams was reading aloud Te Tiriti.

He said *"that the natives might be informed that all who should join the Catholic religion should have the protection of the British Government"*[543]

Williams conferred with Hobson and Hobson replied affirmatively, expressing regret that Pompallier had not communicated his desire earlier as it could have been included in the Treaty. Williams then asked if the Treaty would apply to all religions and upon receiving a positive answer, he wrote an addition to the Treaty on a piece of paper.

*"The Governor says the several faiths of England, of the Wesleyans, of Rome, and also the Māori custom, shall alike be protected by him"*[544]

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[542] Document A18(e), p 755 ; Governor Gipps to Hobson, dispatch, 24 December 1839, G36/1 (a), Archives New Zealand, Wellington

[543] https://www.waikato.ac.nz/odw/modules/Treaty-of-waitangi/williams1

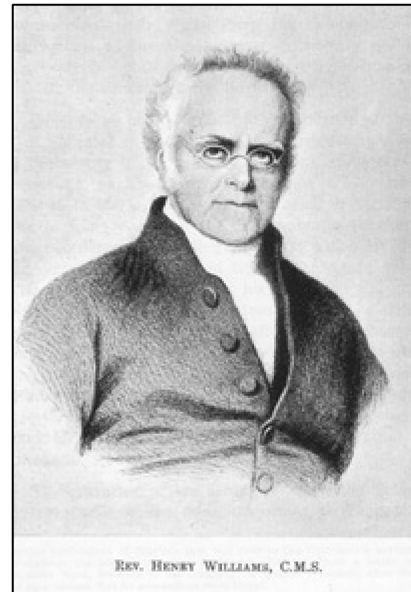
[544] https://www.tepapa.govt.nz/discover-collections/read-watch-play/Māori/Treaty-waitangi/Treaty-close/content-Treaty-waitangi

In Māori, Williams read out to the gathered Rangatira:

*“E mea ana te Kawana, ko nga whakapono katoa, o Ingarani, o nga Weteriana, o Roma me te ritenga Māori hoki, e tiakina ngatahitia e ia” – “The Governor says that the several faiths (beliefs) of England, of the Wesleyans, of Rome and also of Māori custom shall alike be protected by him”.*

## Māori Version

### William’s translation of the Treaty


Rev. Henry Williams, C.M.S.

Williams had very little time to translate the text into Māori and had to come up with innovative ways of translating complex English terms. As a result, his translation was not always a literal translation due to the significant differences between the two languages. He later recalled that he needed to avoid using English expressions that did not have a corresponding Māori equivalent, while still preserving the essence and intent of the Treaty.

Busby had expanded on the limited terms of the Treaty that Hobson had in mind by including a property guarantee, but the Māori text translation changed the fundamental nature of the terms. In the preamble, the Queen's intention to safeguard the "just rights and property" of Māori became a desire to protect their rangatiratanga, or authority, and their whenua, or land.

"Kawanatanga" was used to translate both "civil government" and "sovereign authority," which is a significant factor in the debate over the meaning of te Tiriti, as it relates to the relationship between kawanatanga and rangatiratanga. Therefore, the preamble foreshadowed the conflict between Article 1 and Article 2 of the Treaty.

In Article 1 of te Tiriti, Māori transferred "te kawanatanga katoa o ratou whenua" to the Queen, which has commonly been translated as the complete government or governorship of their lands. However, Dr. Judith Binney pointed out that "kāwana" wielded power, even though "kāwanatanga" was a lower level of authority than "kīngitanga" and "rangatiratanga" in he Whakaputanga[545].

In Article 2, Māori were guaranteed "te tino rangatiratanga" over all their "taonga". This was a significant departure from the English text, which made no mention of authority.

[545] Judith Binney, ‘The Māori and the Signing of the Treaty of Waitangi’, in Towards 1990 : Seven Leading Historians Examine Significant Aspects of New Zealand History, ed David Green (Wellington : GP Books, 1989), p 26

Moreover, Māori were guaranteed not just their "rangatiratanga," but the fullest extent of it through the use of the adjective "tino." Williams used "taonga" as a catch-all for the properties listed in the English text Lands and Estates Forests Fisheries and other properties, which effectively expanded the meaning.

Williams's translation of "pre-emption" as "hokonga" of land to the Queen at agreed prices was another expansion. This certainly shifted the meaning from Hobson's objective of the sole right of purchase by the Crown to a first right of refusal purchase option. Williams later explained in a letter to W.F Porter from the Auckland Press that he had explained "pre-emption" as meaning "The Queen is to have the first offer of the land you may wish to sell, and in the event of its being refused by the Crown, the land is yours to sell it to whom you please."[546]

In Article 3, Williams used the term 'tikanga katoa' to convey the rights and privileges of British subjects without specifically mentioning the need for Māori to obey British laws. The full explanation of British sovereignty was not properly conveyed to Māori, had it been, the Rangatira would not have signed.

Article 3 also included an assimilative intention for Māori to become civilised and live like the British, which clashed with the guarantee of rangatiratanga in Article 2.

In 2014, the Crown argued that 'kawanatanga' was an appropriate translation for sovereignty because it equated to civil government, which was what they alleged Māori wanted. They believed that Māori were being asked to agree to a new and overarching authority that they did not possess. [547]

The Waitangi Tribunal, in its Manukau report, thought that 'kawanatanga' was a well-chosen term because Māori could not have ceded their full authority and prestige.

'Tino rangatiratanga' represented this full authority status, and ceding 'Mana ' was out of the question. Therefore, a simple explanation of sovereignty could not have avoided the use of 'Mana.' Binney, in "Māori and the signing" also thought that 'kawanatanga' was a deliberately pragmatic choice as using 'Mana ' would have been inappropriate.[548]

The concept of "rangatiratanga" was also used by Hobson as a word for British sovereignty as early as April 1840. Williams, who helped translate the Treaty, used language that would appeal to the Māori people. Due to the differences between the Māori and English versions of the Treaty, oral explanations and contracts made during the Waitangi hui became crucial.[549]

Busby and Williams understood the Māori systems of law and authority, as well as their relationship with the land. Therefore, the Treaty had to be tailored to suit the local

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[546] Ross, 'Te Tiriti o Waitangi', p 151

[547] doc A17, pp 159–163.

[548] Binney, 'The Māori and the Signing', p 27

[549] Document A1, p 273

conditions, particularly in its translation. During the Treaty signing, Hobson opened by saying that he was sent by the Queen to "do good" for the Rangatira and their people, but he needed their consent before he could act.

Hobson required the Rangatira to sign the Treaty to give him the power to control the settlers and protect the Rangatira. He later told his peers that he spoke to the chiefs "in the fullest manner," but he left out many details. Hobson did not explain to the Rangatira that signing the Treaty would make British law applicable to them.

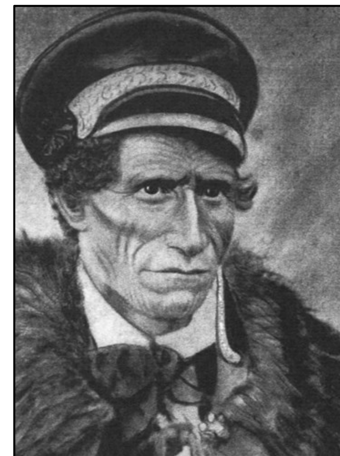
In a letter to Thomas Bunbury, on April 25, 1840, Hobson wrote that he had assured the chiefs that their property, rights, and privileges would be fully protected. The chiefs would cede their sovereignty to the Queen, but they would remain independent and retain full power over their own people while selling land for a fair and suitable consideration.[550]

## Understanding of the Rangatira

The Rangatira present at Waitangi did not place great emphasis on the precise phrasing used in either the Māori or English versions of the Treaty of Waitangi. Instead, they were primarily concerned with the underlying ideas and principles conveyed in the Treaty.

Their primary concern was whether or not a governor would be appointed, and if so, the extent of their power. Some Rangatira expressed reservations that the Governor might have greater authority than they did and refused to sign the Treaty on those grounds. Those who did agree to sign it did so based on the understanding that:

*We will allow you to come here and exercise control over out-of-control Pākehā. But we will retain the rangatiratanga, the authority, with regard to our people. And in the way you relate to us, you have to recognise that independence, and fundamental to that is you will not treat us, any worse than how you treat your own citizens* (Jackson, 2021a).[551]



Kaitīeke (Te Kemara) Te Kēmara[553]

Te Kēmara, a Rangatira from Ngā Puhi demanded that the Rangatira not be overwhelmed by white people and was initially opposed to the signing of the Treaty, particularly when Pompallier told the Rangatira that if they signed the Treaty, they would become slaves. The promise of "perfect independence" reassured him in this regard and he eventually signed.[552]

While the Crown has argued that rangatiratanga was retained "within the rubric of an overarching national Crown

[550] He Whakaputanga me te Tiriti - The Declaration and the Treaty The Report on Stage 1 of the Te Paparahi o Te Raki Inquiry Wai 1040 p 515

[551] Maranga Mai! Human Rights Commission Report 2022

[552] Document A1, p 283

[553] https://www.wikitree.com/wiki/Te_Kemara-1

sovereignty”[554], the Rangatira did not agree that the Governor should have ultimate authority. They were clear in their assertions and sought assurances that they and the Governor would be equals, only signing Te Tiriti on that basis.

The promise that any land found not to have been properly acquired from Māori would be returned also became part of the agreement, especially after Hobson repeated the promise.

The Treaty debate was significant for what was not said.[555] It was not said, for example, that in British law, the Queen's authority was absolute, or that it would replace Māori law and authority. Nor was it said that Māori were to be the only British subjects required to sell their land to the Crown.

It was unclear how kāwanatanga and rangatiratanga could coexist, as the full control of the government was not easily reconciled with the unrestricted exercise of chieftainship.

An independent working group on Constitutional Transformation said in 2018, Te Tiriti, “*Created a new constitutional configuration with the grant of kāwanatanga for the Crown to exercise over its people while providing for a joint site of power where Māori and the Crown could work together in a Tiriti-based relationship*” This, however, did not occur.

The intention for Māori was for Crown authority in Māori–Pākehā interactions to be exercised cooperatively and in a way that protected rangatiratanga. **The Rangatira viewed their agreement with Hobson at Waitangi as a strategic alliance.**

In contrast to the Māori perspective, the British viewed the Treaty as a means of obtaining Māori consent to surrender their sovereignty permanently, without the possibility of renegotiation or reclamation of political authority. The British saw the establishment of English law in New Zealand as a way of asserting sovereignty over the country, dating back to the proclamations made in New South Wales on 14 January.

As has been stated previously in this paper, it was an impossibility for Māori to cede this level of authority and give their Mana over to the British. The concept did not even exist to Māori “The fact that there is no word for ‘cede’ in te reo is not a linguistic shortcoming but an indication that to even contemplate giving away Mana would have been legally impossible, culturally incomprehensible, and politically and constitutionally untenable (Independent Working Group on Constitutional Transformation, 2018, p. 35; Jackson, 2016).

Despite the differences in perspectives, the Muriwhenua Land Tribunal acknowledged that the Treaty aimed to establish a relationship of mutual respect and protection between Māori and Pākehā. Māori have continued to uphold this despite many instances of transgression by the Crown and Pākehā.

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[554] Submission 3.3.33, pp 99–101

[555] Waitangi Tribunal, Muriwhenua Land Report, p 114

The Rangatira did not give up their sovereignty in February 1840, meaning they did not relinquish their power to create and enforce laws over their people and territories. Rather, they agreed to share power and authority with the Governor.[556]

However, the Crown "hastily and peremptorily dismissed" the Tribunal's findings[557] because conceding would have had constitutional implications for Aotearoa.[558] Even after major Treaty settlements in the 1990s, the Crown in the 2000s, showed little sign of recognising any significant form of rangatiratanga[559]

For many Māori the ongoing deceit witnessed during the signing of He Whakaputanga and the Treaty of Waitangi persists in the present time. The government rarely expresses its genuine motives, often leaving out important purposes and specifics. The involvement of Māori in decision-making processes is merely superficial, lacking substantial meaning. Commitments made are frequently left unfulfilled.

Despite numerous instances where the Crown violated the Treaty in the years that followed its signing, Māori have remained steadfast in upholding their dignity and honesty by adhering to the essence and purpose of Te Tiriti o Waitangi, the Treaty they comprehended and consented to.

### Decolonising Te Tiriti o Waitangi principles and practice

Over the last 180 years there has been a gradual shift towards recognition of the in adequacies and inequality in the way the Crown has recognised and tried to apply the principles of the Treaty. However - the colonial view and notions of dominant culture or white superiority still prevail, and as a result, racial inequality and deprivation still haunts Māori society.

Over the past few years academics, lawyers and politicians, who recognise the debilitation that inequality brings to New Zealand society, have formulated a number of recommendations which, if applied, would result in the decolonisation and removal of racist interpretations within the Treaty.

These include the following.

• Decolonising central and local government and key sectors, including housing, education, health, justice, employment, and work and income to realise tino rangatiratanga for Māori.

[556] Waitangi Tribunal, 2014, pp. 526–7).

[557] Independent Working Group on Constitutional Transformation, 2018, p. 55

[558] Maranga Mai! Human Rights Commission Report 2022

[559] Hill, 2009, p. 9

• Set policies, goals and priorities to eliminate racism across central and local government, and across key sectors, thus improving Māori outcomes.

• Strengthen legislation and other standards to regulate, reduce and eliminate racism and concepts of white superiority in all its forms across the government and within society.

• Support agencies to establish authentic partnerships with tangata whenua.

• Develop and embed a Tiriti o Waitangi Anti-Racism Strategy and a Tiriti o Waitangi Decolonisation and Anti-Racism Index within all policies.

• Include an assessment of the current state of all government agencies' performance to determine whether each body is fit for purpose to eliminate racism and uphold Te Tiriti and indigenous Māori human rights.

• Include an assessment of the medium to long-term impacts of current and proposed government legislation and policies on tangata whenua.

• Report on the progress of decolonisation and anti-racism strategy goals in government agency annual reports.[560]

In the primary production sector, the development of a TAMPP model will require a recalibration of government policy settings to enable a new and more sustainable land use model to evolve.

Institutional racism and colonisation principles dating back to the time of Wakefield and the New Zealand company still prevail within some quarters of that sector. The recommendations detailed above should be applied within the development of this new sustainable land use and production model, which will inevitably bring elements of denial and conflict.

Māori have long recognised that reconciliation is a process and not a destination, and their determination and resilience in honouring Treaty partnership principles has seen significant gains both politically and within society, resulting in greater recognition of the value of Mātauranga Māori, tikanga Māori, and holistic kaupapa Māori research methodologies.

At a minimum, the re-establishment of the vastly superior primary production land use model established by Māori in the 1850s will be applied by Māori landowners across significant areas of whenua Māori which still remain within their control.

This will inevitably return higher premiums from primary produce developed within that land use system with high value consumers.  How non-Māori farmers and producers engage with that model is yet to be determined, but lessons learned from the earliest days of racial integration, where non-Māori adopted tikanga principles and kawa, gives a strong indication of what would be expected if their inclusion was to be successful.

[560] Maranga Mai! Human Rights Commission Report 2022

Given that the TAMPP model is values based and given that a key value within that system is a reverence to Papatuanuku / Mother Earth, organic farming within New Zealand appears to provide an appropriate entry point for non-Māori to engage with this re-emerging system.

## Māori Renaissance.

Changes in New Zealand society over the last three to four decades have seen a re-emergence of Māori entrepreneurial capability – a post-modernist renaissance.

Haka being performed for the U.S Secretary of Defence in 2012[561]

The recent development of this renaissance and the redevelopment of their indigenous entrepreneurial capability is a multifaceted and dynamic process that encompasses various aspects of social, environmental, cultural, economic, [SECE] revitalisation.

It is a response to historical injustices and a means to shape a future where Māori culture, identity, and economic prosperity thrive in harmony.

The postmodernist renaissance of Māori refers to a resurgence of Māori culture, identity, and creative expression within the context of contemporary society. This movement acknowledges and builds upon traditional Māori knowledge and practices while embracing new ideas, influences, and technologies. It emphasises the importance of cultural self-determination, decolonisation, and the assertion of Māori narratives, perspectives, and values. And it is whenua Māori based.

The redevelopment of indigenous entrepreneurial capability is a significant component of the renaissance. It involves the cultivation and promotion of Māori entrepreneurship, business ventures and economic development initiatives that are rooted in Māori culture, values, and aspirations. This process aims to empower Māori individuals and communities to participate in and shape the economic landscape while preserving their cultural heritage and connection to place.

Several factors have contributed to this recent development:

**Cultural Revitalisation**: There has been a concerted effort to revive and reclaim Māori language, customs, arts, and traditional knowledge systems. This cultural resurgence

[561] By DoD photo by Erin A. Kirk-Cuomo (Released) - Flickr: 120920-D-BW835-870, Public Domain, https://commons.wikimedia.org/w/index.php?curid=21515341

provides a strong foundation for Māori entrepreneurship, as it emphasises the unique value and marketability of Māori products, services, and experiences.

**Treaty Settlements**: The settlement of historical grievances and the recognition of Māori rights and interests, as enshrined in the Treaty of Waitangi, have provided Māori individuals and communities with greater resources and opportunities to pursue entrepreneurial endeavours. This has led to the establishment of Māori-owned enterprises, ventures, and institutions.

**Government Support**: The New Zealand government has implemented policies and initiatives aimed at fostering Māori economic development and entrepreneurship. This includes funding schemes, business mentoring programs, and partnerships that support Māori entrepreneurs and businesses.

**Collaboration and Networking**: Māori entrepreneurs have increasingly engaged in collaborative efforts, with their communities and external partners. This collaboration enables knowledge sharing, resource pooling, and the creation of networks that enhance business opportunities and market access.

**Global Indigenous Movements**: The resurgence of indigenous movements worldwide has inspired and connected Māori entrepreneurs with like-minded individuals and communities globally. This exchange of ideas, experiences, and practices has facilitated the growth and recognition of Māori entrepreneurship on an international scale.

Overall, the recent development of the postmodernist renaissance of Māori and the redevelopment of their indigenous entrepreneurial capability is characterised by a commitment to cultural revitalisation, economic empowerment, and self-determination.

This chapter will summarise many of the developments as they affect Māori in the broad sense. The overall objective is to present a survey and commentary on the renaissance of Māori through the process of re-establishing their Mana Motuhake and Tino Rangatiratanga, the steps they took to get to where they are now and the work that must continue to succeed.

The New Zealand Land Wars and the following ‘death by a thousand cuts’ suffered through the pākehā legal system devastated Māori in all aspects of their lives - social, cultural, environmental, and economic. But, against all odds, Māori would not submit the to ‘smoothing of the pillow of the dying race’ ethos that was levelled against them.

### Waikato-Tainui

In the Waikato, whilst there were a number of Māori that had stayed on their lands after the confiscation, the vast majority of the Kingitanga supporters had to leave their whenua and go to Te Nehe-Nehe-Nui, later named the King Country. This became a safe haven or sanctuary for anyone, including Te Kooti and others who had prices on their heads.

The King Country became almost a sovereign nation within New Zealand because of the mana of the King and of the Rangatira in that area of that time. It extended out to Kawhia, Taumaranui, Te Whanganui and parts of Tūwharetoa.

Tawhiao, the Māori King, journeyed across Te Nehe-nehe-nui, meeting with Rangatira and hapū. This had a defining influence on him due to Te Whiti and Tohu, Te Wahoumene and the Paimarire, Titokuwaru and others who had decided that they would embark on a path of rejuvenation of mana motuhake, whether it be in communications, in finance or in land. As such, they set up a land league and their spiritual organisation / whakapono which was the beginning of Paimarire.[562]

Tawhiao looked to replicate this in Te Nehe-nehe-nui, taking almost 20 years to meet with his supporters and set it up. The Raupatu, which had devastated Waikato Māori, also became a significant rallying point for the psyche and the people of the Kingitanga going forward.

The search for redress began after 1881 where Tawhiao laid his weapons down at Pirongia in front of Gilbert Mair, the magistrate at the time, bringing the Waikato chapter of the wars to an end.

In 1884, he went to England for an audience with the Queen to seek redress, but he and his Māori embassy were denied and informed that confiscations were a domestic matter under the jurisdiction of the New Zealand government.[563]

He returned in 1885 with a renewed vision and determination, and new autonomous pathways.

The establishment of Mana Motuhake routes initiated by the first Māori king in 1885 marked a significant milestone in Māori self-determination and governance. Following the legacy of the first Māori king, Pōtatau Te Wherowhero, King Tāwhiao, played instrumental roles in shaping these conduits. This included the following.

**Poukai:** The Poukai was a system established by King Tāwhiao in 1885. It involved regular visits by the Māori king and his representatives to marae (Māori meeting grounds) throughout the Waikato region. The purpose of these visits was to foster unity, address social and political issues, and promote the well-being of Māori communities. The Poukai provided a platform for the Māori king to engage with his people directly, offer guidance, and reinforce cultural values and customs. This roopu or network continues to operate today.

**Māori Bank:** As part of the efforts to promote economic independence and self-sufficiency, King Tāwhiao initiated the establishment of a Māori Bank. The bank aimed to provide financial services and support to Māori individuals and communities. It sought to address

[562] https://teara.govt.nz/en/Māori-prophetic-movements-nga-poropiti/page-2

[563] https://www.pressreader.com/new-zealand/waikato-times/20150706/281904476841032

the economic disparities and challenges faced by Māori due to colonisation, offering loans  and investment opportunities that were tailored to Māori needs.

Ko te Peeke o Aotearoa - Kotahi Pauna - No 50, 188- unused cheque with butt attached.[564]

**Te Hokioi:** Te Hokioi was a Māori newspaper founded in 1863 by the Māori king's emissaries, Rewi Maniapoto and Wiremu Tamihana. The newspaper played a crucial role in disseminating information, advocating for Māori rights and interests, and providing a platform for Māori voices to be heard. It facilitated communication among Māori communities, documented their history, and voiced their concerns in the face of colonial pressures and land confiscations.

**Parliament at Maungakawa**: King Tāwhiao established his own parliament, known as the Parliament at Maungakawa, in 1883. It served as a forum for political discussions, decision-making, and the formulation of policies concerning Māori affairs. The parliament allowed Māori leaders to address issues facing their communities, assert their sovereignty, and express their aspirations for self-governance. It functioned as an alternative governance structure that operated parallel to the colonial government.

Today, that parliament, known as Te Kauhanganui, is a governance body serves as a representative body for the Tainui people, providing a platform for decision-making, policy development, and the protection of Tainui interests.

Te Kauhanganui was officially established in 1995 under the auspices of the Tainui Māori Trust Board, which acts as the administrative body for the Tainui iwi. The parliament consists of elected representatives from various Tainui marae (Māori meeting grounds) and tribal districts. The representatives are chosen through a democratic election process.

The primary functions of the Tainui parliament are as follows:

**Governance:** Te Kauhanganui is responsible for making decisions on behalf of the Tainui iwi and ensuring that the interests and aspirations of the iwi are represented and protected. It formulates policies and strategies to guide the development and well-being of the Tainui people.

**Cultural Revitalisation**: The parliament plays a crucial role in preserving and promoting Tainui culture, language, and traditions. It supports initiatives and projects aimed at revitalising Māori knowledge, customs, and practices within the Tainui community.

**Economic Development**: Te Kauhanganui oversees the economic development activities of the Tainui iwi. It makes decisions regarding investments, commercial ventures, and the management of tribal assets to enhance the economic well-being of the iwi and its members.

[564] By Auckland Museum, CC BY 4.0, https://commons.wikimedia.org/w/index.php?curid=81391173

**Advocacy and Representation**: The Tainui parliament represents the interests of the Tainui iwi in various forums, negotiations, and engagements with government bodies, local authorities, and other stakeholders. It advocates for the rights and needs of the Tainui people and works towards achieving positive outcomes for the iwi.

The establishment of the Tainui parliament reflects the aspirations of the Tainui iwi for self-governance, cultural revitalisation, and economic empowerment. It provides a platform for democratic decision-making and ensures that the voices of the Tainui people are heard and respected in matters that affect their collective well-being.

The 1885 initiatives were significant in asserting Māori autonomy and fostering a sense of unity and self-determination among Māori communities during a challenging period of colonial encroachment and land loss. They represented attempts to reclaim political, economic, and cultural authority, ensuring that Māori perspectives and interests were acknowledged and represented. They laid the groundwork for future Māori-led movements and efforts towards self-governance and cultural revitalisation.

Despite the ever-increasing influence of pākehā culture, Māori continued to work collectively as thriving hapū well into the 20th century, each member contributed earnings into the maintenance of whenua and hapū controlled assets. The benefits from working the whenua and those assets were distributed back into the hapū.

When there was work to be done that required a large community effort, in particular agriculture and other types of farming, whānau gathered together for an Ohu – working bee, starting on the whenua of one whānau and moving on to the next until the work was done. This social / cultural enterprise model still flourished long into the 1970's. A case study on this is enclosed in this paper.

The people worked for the benefit of each other and the hapū as a whole to maintain the wellbeing of the tribe. Each whānau ensured that Manaakitanga was maintained by reserving the best of the kai from their whenua and pātaka for the Rangatira as well as the kaimahi of the ohu.

## Māori Population Recovery

At the beginning of the 1900s, there was a notable recovery in the Māori population, with an increase observed in each census. Between 1901 and 1945, life expectancy improved slowly but steadily, reaching 49 years in 1945[565].

[565] Page 3. Population recuperation, 1900–1945 - Taupori Māori

This population growth was accompanied by the implementation of community health initiatives led by Māori health practitioners like Māui Pōmare and Peter Buck (Te Rangi Hīroa).

Sir Maui Pomare[566]

During his tenure as Minister of Health from June 1923, Māui Pōmare faced various challenges and took significant measures to address them. One of the major issues he encountered was the high rates of infant and maternal mortality. The Health Department's budget had been reduced due to the economic recession in 1920-21, and there were internal problems within the department, as well as scepticism from the medical profession.

Pōmare tackled these challenges by initiating a campaign for safe maternity in 1924. He focused on improving antenatal care, promoting aseptic techniques, establishing appropriate hospital policies, and enhancing midwifery training. His efforts led to the development of more affordable and efficient sterilisation equipment and the implementation of standardised aseptic techniques during labour and confinement. Puerperal sepsis, a leading cause of maternal deaths, significantly declined after 1927.[567]

Pōmare also collaborated with Apirana Ngata in the establishment of a commission to investigate land confiscations. The rise of the Rātana movement, which also advocated for addressing this issue, increased its urgency. Pōmare made it a political priority and mobilised support through a fighting fund that people all over the North Island contributed into.

An example of this is when Taranaki Māori dairy farmers contributed from their dairy cheques and the dairy companies forwarded the funds into a bank account. He successfully convinced the government to establish a royal commission in October 1926, which thoroughly examined the confiscations and recommended compensation for those deemed excessive. Taranaki accepted an annual payment of £5,000 in 1931, while Waikato negotiated until 1947 before accepting the same amount.

Sir Peter Buck[568]

Peter Buck, also known as Te Rangi Hīroa, worked closely with Pōmare to improve sanitation and health initiatives for Māori. He became a politician in 1909, served as a member of the Native Affairs Committee and a brief stint in Cabinet representing Māori. After serving overseas with the Pioneer battalion and surviving Gallipoli, he returned home and became the director of the Māori Hygiene Division in the new

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[566] By S P Andrew Ltd - This file has been extracted from another file, Public Domain, https://commons.wikimedia.org/w/index.php?curid=84622456

[567] https://commons.wikimedia.org/wiki/File:Maui_Pomare.jpg

[568] https://commons.wikimedia.org/wiki/File:Peter_Buck_passport_photo_(1927).jpg

Department of Health in 1921.[569] The influenza pandemic of 1918 had devastated the Māori population and his work with Rangatira to educate them on the need to stop the spread of infectious disease was pivotal in arresting the Māori population decline.

These programs played a significant role in enhancing the well-being of Māori and improving their life expectancy to a level that surpassed the conditions experienced during the initial encounters with European settlers[570].

During the mid-19th century, there was a decline in Māori fertility rates. This can be attributed to various factors, including the prevalence of new communicable diseases, the negative effects of malnutrition on conception, and the introduction of sexually transmitted diseases. These factors led to high rates of miscarriages among Māori women. However, as the century progressed, Māori gradually developed a certain level of immunity to the European diseases, which contributed to their improved health outcomes.[571]

Increased fertility improved Māori population numbers as the negative effects of introduced diseases and poor nutrition diminished, and mortality levels gradually decreased. These improvements were due to a number of factors including the work done by Pōmare, Buck and others and also increased access to paid work and the welfare provisions of the Social Security Act 1938.[572]

As advised, following World War II, Māori experienced a significant population growth, marking the second phase of the demographic transition. Despite the Pākehā 'baby boom,' Māori fertility rates remained high, surpassing those of the Pākehā population. Concurrently, Māori mortality rates, especially among infants and children, significantly declined. This decline can be attributed to a new government approach, heavily influenced by Māori, that integrated health policies into comprehensive social programs aimed at improving Māori living conditions, such as housing, income, employment, and sanitation.

During the 1950s, the natural increase in the Māori population reached over 4% annually,[573] approaching the maximum growth possible for a population closed to migration. The growth rates between 1945 and 1966 were nearly double those of the preceding two decades. Furthermore, the traditional male life-expectancy advantage, commonly observed in populations during the early stages of the demographic transition, where women are more likely to die during childbirth, gave way to the modern trend of higher life-expectancy for women.

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[569] https://teara.govt.nz/en/biographies/3b54/buck-peter-henry

[570] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-3

[571] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/page-3

[572] https://teara.govt.nz/en/1966/social-security/page-2

[573] https://teara.govt.nz/en/taupori-Māori-Māori-population-change/print

### Urbanisation

In 1945, a large proportion of Māori workers were employed in primary industries. However, by the 1970s, the majority had transitioned to manufacturing jobs. In contrast, non-Māori workers increasingly moved into higher-paying and higher-status positions in the tertiary sector. These shifts in the labour force played a crucial role in improving Māori social and economic well-being.

Although the Māori labour force still faced disadvantages compared to Pākehā, the shift away from primary industries provided access to more stable and better-paying employment opportunities. Conversely, from the mid-1980s onward, economic restructuring led to a decline in the manufacturing sector, resulting in Māori bearing a disproportionate share of job losses. Not all individuals were able to secure alternative employment, leading some to return to their tūrangawaewae, while others opted to migrate to Australia.

The 1970's gave rise to the re-emergence of Māori activists. Groups such as the urban-based Ngā Tamatoa movement and more traditional Māori groups like the Kīngitanga began advocating for the right to live as Māori within New Zealand society. These calls for cultural recognition and equal treatment were supported by the Pākehā anti-racist movement. This growing alliance between Māori and Pākehā activists reflected a broader societal shift towards acknowledging, addressing historical injustices and promoting a more inclusive and equitable society.

However, the opposition to Ngā Tamatoa and Māori activism was prolific. Tauiwi failed to understand that - "Injustice anywhere is a threat to justice everywhere. We are caught in an inescapable network of mutuality, tied in a single garment of destiny. Whatever affects one directly, affects all indirectly." — Martin Luther King Jr.

While urban Māori communities often faced marginalisation and lived in impoverished housing areas, these urban settings also provided opportunities for new experiences and movements. In the 1960s and 1970s, Māori were exposed to the ideas and activism of the US black civil rights movement and the anti-Vietnam War movement. Additionally, protests against the exclusion of Māori players from rugby tours to South Africa brought awareness of the anti-apartheid movement.

This period of heightened political consciousness among Māori led to the emergence of various protest movements. Māori activists, radicals, and protesters became significant figures in the discourse surrounding Māori identity. The young Māori leaders who spearheaded the protest movements of the 1960s, 1970s, and early 1980s came to be known as the "rangatiratanga generations."[574]

This generation of educated and passionate Māori individuals sought to address the decline of Māori culture and revitalise its remaining elements.

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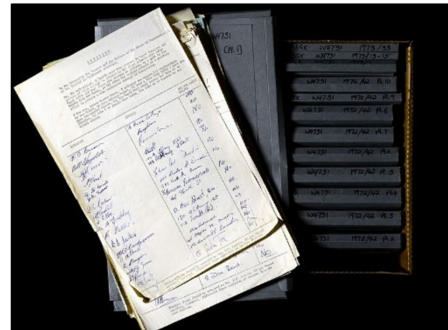
[574] https://teara.govt.nz/en/nga-tuakiri-hou-new-Māori-identities/page-3

The abovementioned Ngā Tamatoa is an iconic example.[575] Initially formed by university students and later establishing branches in Wellington and Christchurch, the group expressed a deep sense of "rage" at the loss Māori had experienced and the assimilation into a pseudo-Pākehā (non-Māori) identity. Their focus was on promoting Māori cultural identity and self-determination. They challenged the dominant narrative that suppressed Māori culture and advocated for the acknowledgment and celebration of Māori traditions, arts, and practices.



Petition by Ngā Tamatoa to introduce te reo Māori in schools, 1972[576]

Ngā Tamatoa actively campaigned for the recognition of Māori land rights and the honouring of the Treaty of Waitangi—a historic agreement between the British Crown and Māori chiefs. They highlighted the injustices faced by Māori communities in land confiscations and worked towards addressing these issues.

The group engaged in various political activities, including protests, demonstrations, and lobbying. They sought to raise awareness about the social, economic, and political inequalities faced by Māori communities and advocated for change at both local and national levels.

Ngā Tamatoa's activism and advocacy laid the foundation for subsequent Māori movements and organizations. Their efforts inspired and influenced future generations of activists and contributed to the ongoing struggle for indigenous rights and social justice in New Zealand.

Their protests commenced on Waitangi Day, February 6, 1971, when Ngā Tamatoa disrupted a speech by Finance Minister Rob Muldoon at Waitangi,[577] with the burning of a British flag which was a pivotal moment in New Zealand history. The protest became an annual event and continued to play a role in Māori activism for years to come.

This ultimately implemented change for the better. This decade saw New Zealand demonstrating a growing commitment to biculturalism, which aimed to establish equal standing for Māori and Pākehā cultures. This commitment led to significant policy changes within government departments and other state entities. The education system, in particular, responded to the decline of the Māori language, which faced the risk of extinction by this time.

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[575] https://en.wikipedia.org/wiki/Ng%C4%81_Tamatoa

[576] https://commons.wikimedia.org/wiki/File:Petition_to_introduce_te_reo_M%C4%81ori_in_schools,_1972_(19531308104).jpg

[577] https://www.ngataonga.org.nz/search-use-collection/search/23864/

### Māori Literature

During this decade, Māori expression through literature became prominent. Witi Ihimaera and Patricia Grace, two leading Māori authors, published early short stories in Te Ao Hou, a magazine published by the Department of Māori Affairs.

Patricia Grace's stories often depict the lives of Māori characters, their connection to the land, their struggles, and the complexities of their cultural identities. She portrays the rich traditions, values, and perspectives of Māori communities, as well as the challenges they face in contemporary New Zealand society.

Her writing style is known for its evocative language, vivid descriptions, and ability to capture the nuances of Māori life. Through her stories, she addresses themes such as identity, colonisation, intergenerational trauma, cultural preservation, and the clash between traditional Māori values and the influence of Western society.

The works of Patricia, Witi and other Māori writers played a significant role in introducing many New Zealanders to a Māori world that had been largely unseen or unknown to them. They provided a platform for Māori voices and perspectives, allowing readers to gain insights into Māori culture, experiences, and their worldview. Through their storytelling, Ihimaera and Grace helped bridge the cultural divide and fostered a deeper understanding and appreciation of Māori heritage among a wider audience in New Zealand.

Changing attitudes between Māori and Pākehā were also evident among the public as well as within official agencies. An example of this is the 1974 funeral of Prime Minister Norman Kirk included traditional Māori mourning ceremonies.

### Not One More Acre

In 1975, a significant event called the Hikoi or Māori Land march[578] led by Whina Cooper took place, spanning the length of the North Island and concluding with a gathering outside Parliament in Wellington.

Dame Whina Cooper, as she came to be known, was told by her father in his will, “Do not sell the land to the Pākehā, even if you have no possessions. If you remain strong and remain on your land, the day will eventually come when you will have money, but if you sell you will have nothing, and the ones who will suffer will be your children and your children’s children.” [579]

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[578] https://www.nzgeo.com/stories/inside-the-land-march/

[579] https://www.nzgeo.com/stories/inside-the-land-march

The beginnings of the land march can be traced back to a hui held at Te Puea Marae in Auckland in March 1975. Dame Whina was heard to have said, "Good gracious, if we let them take what is left, we will all become taurekareka [slaves]. Do we want that?"[580]

Te Rōpū o te Matakite was formed, bringing together organisations like the New Zealand Māori Council, the Kingitanga, Ngā Tamatoa, the Māori Women's Welfare League, trade unions and notable activists such as Tama Iti, Titewhai Harawira and Ranginui Walker.
Dame Whina was asked to lead the movement and her decision was to march on Parliament to demand an end to laws that took Māori land and create those that were reflective of Māori cultural values.[581]

Dame Whina Cooper in Hamilton during the Land March 1975[582]

The hikoi was represented with a Pouwhenua signifying land occupation and a white flag representing te Matakite. The flag was never to touch the ground until all land claims had been resolved (it rests, off the ground, at Te Kōngahu Museum in Waitangi) and no other placards were to be displayed during the march.

Māori Language Day, September 14, saw the march depart from Te Hapua Marae with Dame Whina and her mokopuna Irenee with 50 people in tow.

At the end of the first leg, many of the participants required medical support for blisters and exhaustion. Tama te Kapua Poata, wrote in his book, "S*eeing Beyond the Horizon"*[583]*,* "On the first leg of the journey, the marchers weren't fit… They were hobbling and getting blisters. The first marae we stopped at was about 25 miles (40kms) out of Te Hāpua. People just collapsed after that first leg." A pākehā nurse arrived to provide support in a gesture that became more frequent as the march moved on and numbers grew.

By the time the march reached the Beehive, still under construction, it was 5000 strong. Media coverage was extensive and support across Aotearoa was widespread. The kaupapa of confiscation and inequality was finally bought into mainstream media and activated a generation of Rangatahi Māori to take up the cause of Māori rights.

[580] ibid

[581] ibid

[582] https://commons.wikimedia.org/wiki/File:Whina_Cooper_in_Hamilton.jpg

[583] Poata, T. (2012). Seeing Beyond the Horizon: a Memoir. Steele Roberts.

## Treaty of Waitangi Act and Tribunal

For lawyers, the centrepiece of the renaissance of Māori in New Zealand society has been the 1840 Treaty of Waitangi.[584] But, for well over 100 years, the provisions of the treaty were disregarded by New Zealand courts or lawyers.

The land march and other activism by Māori in the 1970s became a pivot point of change. The emphasis on Māori rights issues had a significant impact on the enactment of the Treaty of Waitangi Act in 1975, which carried substantial implications. This legislation was instrumental in the establishment of the Waitangi Tribunal, granting it judicial powers to examine instances where the Crown had violated the Treaty.

This development represented a crucial milestone in establishing a formal framework for addressing historical injustices and seeking remedies. Initially, the Tribunal's jurisdiction was limited to investigating breaches that occurred after the Act's implementation and it was empowered to recommend solutions without any authority to them. This disappointed many Māori and cast doubts on the effectiveness of the Waitangi Tribunal as the majority of significant breaches of the Treaty had occurred outside of its scope at that time.[585]

## Takaparawhau / Bastion Point

In 1976 the Auckland City Council announced its decision to develop Takaparawhau / Bastion Point by selling it to the highest bidder for high income housing.
This sparked a massive protest by the Ngati Whātua Orakei Iwi in 1977.

Bastion Point activist campaign at Nambassa alternatives festival 1981[586]

Bastion Point took its name from the government building a military outpost, Fort Bastion, in 1885 on whenua that was supposed to be inalienable.[587] In 1941, the Crown, deeming the whenua unnecessary for the purpose of defence, gifted it to the Auckland City Council instead of back to Ngati Whātua.

Two days before the proposed construction of housing, the Orakei Māori Action group, led by Joe Hawke, occupied the whenua to prevent its confiscation. The protest lasted 506 days, ending on the 25th of May 1978 when the Muldoon government sent 800 police and New Zealand Army personnel to forcibly remove and arrest the occupiers. 220 protestors were

[584] http://www.archives.govt.nz/exhibitions/permanentexhibitions/treaty.php.

[585] Orange, Claudia (21 December 2015). An Illustrated History of the Treaty of Waitangi. Bridget Williams Books. p. 239.

[586] https://commons.wikimedia.org/wiki/File:Bastion_Point_Māori_Land_Rights_copy.jpg

[587] https://en.wikipedia.org/wiki/Bastion_Point

arrested, clogging the Court system to the point that the majority of protestors did not get prosecuted.

The occupation and the use of excessive force by the government highlighted injustice against Māori and became a landmark of Māori protest in New Zealand's history.

The protest drew widespread attention and support, both nationally and internationally. It highlighted the injustices faced by Māori communities regarding land dispossession and sparked a broader awareness of the historical grievances experienced by indigenous people in New Zealand. The protest also challenged the government's policy of assimilation and the prevailing narrative that Māori culture and land were inferior.

Another example of Māori protest occurred in 1978, when a clash happened at Auckland University. A rōpū called He Taua[588] prevented engineering students from performing a mock haka that belittled Māori culture.

By 1979, New Zealand's major political parties had acknowledged the ethnic diversity of New Zealand and, as a general principle, agreed that Māori should have the freedom to pursue their own cultural and societal path without being assimilated into Pākehā norms.[589] The mid-1980s Labour government continued the process of reforms and embraced a bi-cultural approach to government policies, which aimed to acknowledge and incorporate both Māori and Pākehā perspectives.[590]

The Springbok Tour of 1981 created history of a different kind when Māori and Pākehā alike banded together to march on the tour to protest against apartheid in South Africa. Not only was the protest an integral part of highlighting international awareness of apartheid, it also cast a spotlight on the racism within New Zealand society. As one of the original protesters Donna Awatere Huata said in an interview 40 years later, "It was the only time Pākehā New Zealand had made a stand on racism. When did they ever protest against the taking of our lands, or the way our children were beaten for speaking their language?"[591]

She went on to say that "One lasting legacy of the tour was that a generation of Pākehā no longer saw Māori as "fodder for their racism" or that "New Zealand's colonial past is OK", she said. We now have an army of Pākehā who have decolonised themselves. You can never take them backward, that's what they are till they die, and their children will inherit that."[592]

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[588] https://www.nzherald.co.nz/kahu/haka-brawl-rivals-unite-to-remember/YOCXZ5YKXEXUY3FBFRCHQZIBZQ/

[589] King, Michael (2004). The Penguin History of New Zealand Illustrated. Penguin Group (NZ). P 399

[590] Derby, Mark. "Māori–Pākehā relations - Māori renaissance". Te Ara - the Encyclopedia of New Zealand. Retrieved 17 March 2023.

[591] https://www.stuff.co.nz/national/126482953/1981-springbok-tour-40-years-on-activists-on-how-protests-shaped-their-lives-and-aotearoa

[592] ibid

## Te Māori Exhibition

In 1984 Te Māori, an exhibition of traditional Māori arts and culture, toured museums in several large US cities, gaining the most overseas attention any previous New Zealand exhibition had ever seen. Spearheaded by Kara Puketapu, the Secretary for Māori Affairs, Te Māori was organised in collaboration with the Queen Elizabeth II Arts Council and received funding from Mobil. Hirini Moko Mead, served as the co-curator of the exhibition.

This ambitious project had been in the planning stages for a decade. It showcased a collection of 174 customary carved Māori art pieces sourced from 12 museums across New Zealand. The Auckland War Memorial Museum made the largest contribution, loaning 51 pieces.

Te Māori Exhibition 1984[593]

The exhibition debuted at the Metropolitan Museum of Art (the Met) in New York on September 10, 1984. It subsequently travelled to the Saint Louis Art Museum (February-May 1985), the M. H. de Young Memorial Museum in San Francisco (July-September 1985), and the Field Museum in Chicago (March-June 1986).

A significant aspect of the exhibition was its adherence to Māori tikanga, encompassing traditional practices and values. This involved a dawn ceremony, karakia, speeches, waiata and kapa haka. Mead noted the positive impact of these cultural elements within the esteemed setting of the Met, stating "It did much to make tikanga Māori more acceptable not only to the population at large of Aotearoa but, more importantly, among our own people."[594]

## Kohanga Reo

To address the decline of the Māori language and promote its usage, Māori recognised the urgency of the situation and viewed language revitalisation as crucial to the future of Māori and their cultural development.

As a response, the kōhanga reo movement, involving language nests, was initiated in the early 1980s. This movement was followed by the establishment of kura kaupapa, where education was conducted in the Te Reo. Significantly, the majority of funding for these initiatives came from Māori communities rather than the central government.

[593] Source:https://discover.stqry.app/da/story/16173

[594] Mead, Sidney M. (2016). Tikanga Māori : living by Māori values (Revised ed.). Wellington.

Tom Roa, a noted Tainui Kaumātua, and his wife Robyn were an integral part of establishing the Kohanga Reo movement. They established Kōkiri Te Rāhuitanga Kōhanga Reo built from a playgroup they had started for the local children which only spoke Māori.

With the support of their whānau they canvassed the opinions of every house in Ōtara to see if there was support for a bilingual unit in their local primary school. All but one household, which had no children, were completely behind the idea and as such, the bilingual unit was started.[595]

It is important to note the makeup of the community that Tom and his whānau canvassed which was Pākehā, Indian, Chinese, Pacific Islander and Māori. This clearly showed that attitudes towards Māori culture were changing.

In 1985, the Treaty of Waitangi Amendment Act was passed, expanding the Tribunal's scope. This amendment enabled the Tribunal to investigate breaches under the Treaty that extended back to its signing in 1840. This extension allowed for a more comprehensive examination of historical grievances and a more thorough pursuit of justice and reconciliation.

### Treaty Settlements

While the late 1980s saw an increase in tangible benefits for Māori resulting from Treaty settlements, such as substantial government payments to address Tribunal claims, there was a general sense of dissatisfaction among the non-Māori public. Many pākehā expressed this dissatisfaction by labelling Māori as “dole bludgers” who were receiving handouts from the government for doing nothing. They were fearful that their privately-owned lands, that were (in many cases) illegally confiscated from Māori were under threat of being returned.

The government made moves to ensure that privately-owned general title whenua was excluded in future settlements. This resulted in even further land loss in the settlement process until this loophole was closed.

In 1987, the Waitangi Tribunal concluded that the Government had not adequately protected Te Reo Māori and the Māori Language Act was passed, declaring Māori an official language, allowing Te Reo to be spoken in Court and establishing the Māori Language Commission. The commission's primary focus is to promote te reo as a living language[596][597] and a normal means of communication.

1987 also saw the Māori Council successfully challenge the government over the State-Owned Enterprises Act 1986. They claimed that it allowed the government to privatise land

[595] Dale Husband Tom Roa: Understanding mana and our place in the universe Oct 28, 2017

[596] "Our story". Māori Language Commission. Crown. Retrieved 15 March 2023.

[597] Moon, Paul (2013). Turning Points – Events that changed the course of New Zealand history. New Holland. pp. 191–203.

and assets which made them ineligible for use as compensation in Waitangi Tribunal claims. The outcome was the enactment of the Treaty of Waitangi (State Enterprises) Act 1988, which included provisions known as memorials that aimed to recover land and assets affected by Māori claims. However, these measures did not immediately succeed in preventing the ongoing alienation of land.[598]

As part of the Treaty of Waitangi settlement process, the New Zealand Labour Government restored Takaparawhau/Bastion Point and Ōrākei Marae to Ngāti Whātua Ōrākei in 1988. This was also accompanied by compensation. Subsequently, in 1991, the Ōrākei Act was enacted to officially acknowledge and uphold the rights of Ngāti Whātua Ōrākei as stipulated in the treaty.

Today, the land at Ngāti Whātua Ōrākei has a vibrant and thriving community. The iwi has developed housing, commercial, and cultural facilities on the land. It is a mixture of residential homes, marae, and community buildings. The iwi also operates a range of cultural, educational, and economic initiatives that contribute to the well-being of their people and the wider community.

The success of Ngāti Whātua Ōrākei in regaining their land and establishing a prosperous community has had a profound impact on race relations in New Zealand. It has demonstrated the importance of recognising and addressing historical injustices and fostering positive relationships between Māori and non-Māori communities. The story of Ngāti Whātua Ōrākei and Bastion Point continues to inspire and inform discussions on indigenous rights, reconciliation, and the ongoing process of nation-building in New Zealand.

New Zealand law had been regulating commercial fisheries for some time, leading to a significant erosion of Māori control over their fisheries, supposedly protected by the Treaty. To resolve this grievance, an interim agreement was reached in 1989, where the Crown transferred 10 percent of New Zealand's fishing quota, shareholdings in fishing companies, and $50 million in pūtea to the Waitangi Fisheries Commission. The commission was responsible for holding the fisheries assets on behalf of Māori until an agreement could be reached on how to distribute the assets among hapū.

1989 also saw Waikato-Tainui seek to stop the alienation of Māori lands held by the Crown after the successful challenge of the government by the Māori Council. During the initial scoping phase, Tainui-Waikato were assured that land alienation was a top priority and if that any land within the scope of settlement was made available for sale, it would be land-banked for future use. This received no support from senior Crown officials for the next 4 years and even then, the amount of Crown properties available often consisted of the least profitable by government standards.[599]

[598] https://ojs.victoria.ac.nz/jnzs/article/view/3984/3551

[599] https://ojs.victoria.ac.nz/jnzs/article/view/3984/3551

In 1990, the commemoration of the Treaty of Waitangi's signing in was celebrated on its sesquicentenary. But rather than providing a comprehensive understanding of the historical realities surrounding the Treaty, it was more focused on appeasing the nation's conscience.

By this time, Māori had made significant strides in their cultural and social recovery, even with ongoing challenges. This decade witnessed the establishment of new identities and terminologies as Māori redefined their lives in various ways.
An example of this is the renaming of the Department of Māori Affairs in 1992, which became Te Puni Kōkiri - the Ministry of Māori Development. This change represented Māori aspirations for greater control over institutions that directly impacted their lives, as well as a broader movement to incorporate Māori names alongside English names in public institutions.

## Wai 262

One of the most important Waitangi Tribunal Claims in New Zealand's history, known as WAI 262 (also discussed in the Indigeneity section of this paper), was lodged in 1991 by six claimants on behalf of themselves and their iwi: Haana Murray (Ngāti Kurī), Hema Nui a Tawhaki Witana (Te Rarawa), Te Witi McMath (Ngāti Wai), Tama Poata (Ngāti Porou), Kataraina Rimene (Ngāti Kahungunu), and John Hippolite (Ngāti Koata).

The contemporary claim revolves around the inclusion of Māori culture, identity, and Mātauranga Māori within the legal framework of New Zealand, as well as government policies and practices. It raised questions about the ownership and control of Mātauranga Māori, artistic and cultural works (such as haka and waiata), and the environment that has shaped Māori culture. Additionally, it explores the role of key Māori cultural values in contemporary New Zealand society, such as the responsibility of iwi and hapū to act as Kaitiaki for taonga, including Mātauranga Māori, artistic and cultural works, significant locations, and flora and fauna that hold importance to iwi or hapū identity.[600] The complexity and far-reaching nature of the claim meant that it would be 20 years before the report and recommendations were released.

In 1992, the second part of the fisheries agreement made in 1989, known as the Sealord deal, marked the full and final settlement of Māori commercial fishing claims under the Treaty of Waitangi. This settlement included various provisions such as 10% of all fishing quota being allocated to iwi, 50% ownership of Sealord Fisheries, 20% of all new species brought under the quota system, additional shares in fishing companies, and $18 million in pūtea. The total value of the settlement was approximately $170 million.[601] The Hon. Matiu Rata, Dr. George Habib, Garry Watson [Tainui] and Rick Boyd played key roles in leading this settlement. Watson and Boyd provided analysis on the value of the settlement to iwi via endless iterations and negotiations with Watson's work resulting in a recalibration of the

[600] https://waitangitribunal.govt.nz/news/ko-aotearoa-tenei-report-on-the-wai-262-claim-released/

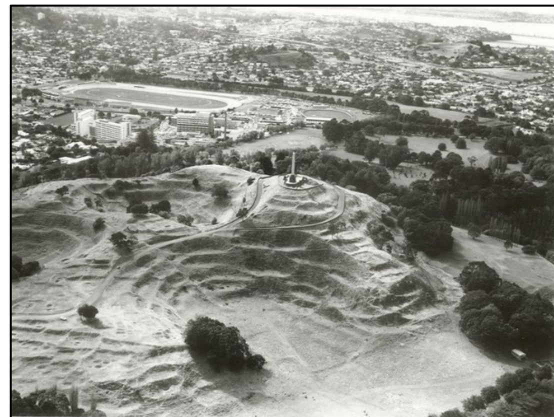
[601] Walrond, Carl (2006). "Fishing Industry". Te Ara: The Encyclopedia of New Zealand. Archived from the original on 19 August 2007. Retrieved 15 August 2006.

value of quote assigned to iwi in the Area One Consortium, shifting lease preference allocations away from a coastline formula [which favoured Ngai Tahu in particular] to a population-based allocation deem more equitable.

## Protest

The fight for Māori rights continued and activism returned to the public eye in 1995 when the Moutua Gardens, also known as Pākaitore, in Whanganui were occupied by iwi asserting their ownership rights over the land. Historically, Pākaitore was a well-known marketplace and considered a sanctuary where tribes were equal, and police could not enter[602]. The New Zealand company illegally purchased Wanganui lands in the mid-1800s, and the local Iwi claimed that it was left to Māori in the 1848 sale. The statue of former New Zealand premier John Ballance was beheaded by protesters claiming that he aided and abetted Māori land alienation. Ballance did indeed encourage intensive settlement of rural areas but is also reported to have advocated strongly for Māori to retain lands still under their control.[603]

In Maungakiekie / One Tree Hill, Auckland, the iconic lone pine tree was cut by Mike Smith in 1994 and many in Aotearoa are still unaware of the reasons behind the attack on the tree.



One Tree Hill, 1974[604]

Before the pine trees' existence, a single tōtara, planted at the top of the pā for the birth of the son of a local Rangatira, gave the mountain its other name: Te Tōtara-i-āhua, the tōtara which stands alone. When that tree fell, a Pohutukawa was planted in its place, inspiring John Logan Campbell to name Maungakiekie One Tree Hill. This tree in turn was "levelled by some goth for firewood's sake" according to an 1875 article in the Daily Southern Cross.

Smith and other Māori viewed the pine tree's history and its significance in the collective consciousness of Tāmaki / Auckland as symbolic of the land transfer and confiscation systems that played a central role in the city's colonisation by Pākehā.

In 1994, Mr Smith took a chainsaw to the pine out of frustration over the Government limiting Māori Treaty settlements to $1 billion.

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602 https://www.greenleft.org.au/content/new-wave-Māori-activism

603 https://teara.govt.nz/en/biographies/2b5/ballance-john

604 https://commons.wikimedia.org/wiki/File:Auckland-_One_Tree_Hill,_Māori_Memorial_%26_Cornwall_Park._Greenlane_Hospital_%26_National_Womens_Hospital_on_the_left._Alexandra_Trotting_Park_%26_Epsom_Show_Grounds_in_background.jpg

He was arrested for "interfering with a tree without resource consent" and convicted and sentenced to nine month's periodic detention. Relatives of Mr Smith then attacked the tree with a chainsaw later in 1999.

Smith’s protest can be summed up succinctly by a quote from an article written on the event, “In the darkness of night, with a borrowed Oleo-Mac and some money for petrol cobbled together by mates, Smith struck right at the heart of the precarious conditions which had come to define the reality of Māori mana i te whenua: the idea we should look to Te Tōtara-i-āhua and see a pine.”[605] The tree was not felled that night. The saw got stuck in the tree, creating an iconic symbol in so doing.

The pine tree was finally removed using a helicopter.

These incidents reflect the continued presence of unresolved grievances and the ongoing struggle for Māori rights and recognition in New Zealand during this decade.

## Waikato-Tainui Settlement

In 1995, the settlement process begun in 1989 by Waikato-Tainui reached a conclusion. The settlement package was valued at $170 million, consisting of a combination of pūtea and Crown-owned land.

This settlement was notable for the inclusion of a formal apology as part of the claim’s legislation, which received Royal assent from Queen Elizabeth II herself during her 1995 Royal tour of New Zealand. The Crown expressed remorse for the Invasion of the Waikato and the subsequent indiscriminate confiscation of land.

The announcement of the settlement was greeted by the general public with a mixed opinion. Many were supportive of Waikato-Tainui finally receiving compensation and yet many others continued the “dole bludging / handout for doing nothing” rhetoric. It is important to note that the “value” of the 1.2 million acres of confiscated land was in the billions of dollars as opposed to the $170 million that was eventually received.

In a shrewd political move, Waikato Tainui also ensured that there would be parity in settlement received if and when future negotiations concluded by other Iwi reached higher value settlements based on their relative size.

By 1996, there were 765 kōhanga reo spread throughout the country, continuing the growth of the language and testifying to Māori commitment of preserving the valuable taonga of Te Reo Māori.

[605] https://thespinoff.co.nz/atea/15-04-2021/the-rise-and-fall-of-the-pine-on-one-tree-hill

The introduction of the MMP (Mixed-Member Proportional) electoral system in New Zealand in 1996 had a significant impact on Māori representation and the political landscape in the country.

The MMP system was designed to provide fairer representation by ensuring that the proportion of seats a political party receives in Parliament aligns more closely with the proportion of votes it receives nationwide.

For Māori, the MMP system brought about increased opportunities for political representation. Prior to MMP, Māori were severely underrepresented in Parliament, often with only a small number of Māori MPs. Under the MMP system, the number of Māori MPs in Parliament increased significantly.

Since 1996, there has been a 33 percent rise in the number of Māori graduates and an even greater increase of 54 percent in the number of Pacific graduates and 4 years later, the percentage of Māori in higher education, skilled and managerial roles had increased. Conversely, enrolment rates at universities were significantly lower for Māori and Pacific students compared to the overall student population.

This is a reflection of the need for relevant education for Māori. Kaupapa Māori research, where Māori students are not required to leave their Māori tanga outside of the lab, is vital as is the decolonisation of the education system, in particular tertiary education, where Mātauranga Māori is still being dismissed by some pākehā scientists.

Western science can contribute to the validating of what Māori already know of Mātauranga Māori, but it cannot dictate its importance or relevance. Mātauranga Māori needs to lead the research and be supported by western science. It must not be reduced to an interesting amendment to research already being conducted, ticking the Māori requirement box in funding applications and continuing on with business as usual.

## Ngai Tahu Settlement

In 1997, another significant settlement involved Ngāi Tahu, whose claims covered a large portion of the South Island. Their claims were based on the Crown's failure to fulfil its obligations in land sales that occurred in the 1840s. The settlement, signed in Kaikōura, sought not only pūtea and whenua but also recognition of Ngāi Tahu's relationship with the land. As part of the settlement, Mt Cook was renamed Aoraki/Mount Cook and returned to Ngāi Tahu to be gifted back to the people of New Zealand. The negotiations during this settlement involved a litigious approach to ensure progress, with Chris Finlayson being one of the lawyers involved.

Tribunal work relating to Treaty principals began to appear in legislation: by 1999, action related to the Treaty was required in eleven statutes from a total of 29 in which the Treaty

was mentioned.[606][607] and by 2001, partly as a result of Treaty settlements, Māori assets had reached NZ$8.99 billion.

The Māori New year celebration of Matariki was gaining widespread recognition and the first modern day celebrations took place in Hawkes Bay in 2000.

Dr. Rangi Mātāmua was the driving force behind this after asking his Koro, Timi Rāwiri, about the Matariki star system. His Koro went to a cupboard and brought out a 400-page manuscript written in Te Reo Māori. The manuscript had been written over many years in the 19th century by Timi Rāwiri's grandfather Rāwiri Te Kōkau and father Te Kōkau Himiona Te Pikikōtuku, who was a tohunga of Tūhoe and Ngāti Pikiao.[608]

The manuscript was a record containing the names of 1000 stars and 103 constellations and instructions for setting up a whare kōkōrangi / a traditional house of astronomical learning. Timi Rāwiri told his mokopuna, Mātāmua to share the knowledge it contained: "Knowledge hidden, he said, wasn't knowledge at all."[609]

Māori political influence continued to grow through MMP and by 2002 the number of designated Māori  seats had risen from four to seven and there were 20 Māori MPs in a parliament of 120 seats.[610]

## Foreshore and Seabed Act

In 2004, two major events shifted the course of history for New Zealand and Māori. The Foreshore and Seabed Act 2004 and the forming of Te Pāti Māori.

The Foreshore and Seabed Act 2004 was announced by government in response to a Court of Appeal decision regarding a claim lodged in the Māori Land Court seven years previously. The claim, amongst other things, concerned the ownership of the foreshore and seabed and the Māori customary right of ownership. The Māori Land Court determined that it could consider the matter, only to be overruled by the High Court.

An appeal was lodged and was upheld by the Court of Appeal which ruled that the various acts of parliament may influence property rights, but they do not extinguish them, and the Court granted the right to pursue establishing an interest with regards to foreshore and seabed property rights.

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[606] Moon, Paul (2013). Turning Points – Events that changed the course of New Zealand history. New Holland. pp. 191–203.

[607] Ibid p. 196-197

[608] Arnold, Naomi (July–August 2018). "The Inheritance". New Zealand Geographic. **152**.

[609] Ibid

[610] Ibid. 191–203

Māori, at this time, were seeking recognition of their status as mana tiaki for their whenua, including the foreshore and seabed, as guaranteed by the Treaty of Waitangi. They were not looking to lock non-Māori out of accessing the beaches of Aotearoa.

Hikoi-Foreshore Protest 2004[611]

The Court of Appeal decision provoked a massive fear response in non-Māori. The National Party, spearheaded by Don Brash, seized upon this in order to generate political momentum and whipped the fear into an almost frenzy state across the nation.

Concerned that they would lose the next election, the Labour Party responded with the 2004 Act which placed ownership of the foreshore and seabed in the Crown in a mid-ground attempt to placate fears. It provoked a huge response by Māori and a Dame Whina Cooper-inspired land march of 15,000 Māori descended on Parliament.

Standing atop of a bus, an old mobile home in the Parliemant grounds, Labour MP Tariana Turia announced she would  leave the party to form the NZ Māori  Party [now known as Te Pāti Māori,] to date New Zealand's most successful Māori-specific political party.

Despite massive opposition to the bill, the Foreshore and Seabed Act 2004 was made official, capping off the biggest land grab made by government in modern New Zealand history.

Te Pāti Māori, led by Tariana Turia and Pita Sharples gained four seats in the following year's general election, changing the course of Māori politics with more Māori in Parliament than had ever been before. This trend has since continued and the Māori voice in government grows stronger.

In 2011, the Foreshore and Seabed Act was repealed and replaced by the Marine and Coastal Area (Takutai Moana) Act 2011. It was enacted by the fifth National government and establishes a unique property classification for the marine and coastal area, which is not owned by anyone[612].

The specifics of the act are that it:[613]

- Guarantees free public access.
- Makes a common space of the public marine and coastal area, ensuring it can never be sold.
- Protects all existing uses, including recreational fishing and navigation rights.

[611] https://commons.wikimedia.org/wiki/File:Hikoi-foreshore.jpg

[612] Boast, Richard (2011). "Foreshore and Seabed, Again". NZJPIL. **9**: 271–284.

[613] https://www.legislation.govt.nz/act/public/2011/0003/latest/DLM3213131.html

- Addresses two fundamental rights violated by the Foreshore and Seabed Act – the right to access justice through the courts, and property rights. The Act provides for primarily two types of rights: protected customary rights, and customary marine title.
- In order to establish protected customary rights, the applicant must show that the right has been exercised since 1840, continues to be exercised in accordance with tikanga Māori, and is not extinguished by law. This is not an interest in land, but a protection of certain customary interests in that land.
- In order to establish customary marine title, the applicant must show that the area is held in accordance with tikanga Māori and has been exclusively used and occupied since 1840 without substantial interruption. This is an interest in land, but it does not include the right of alienation or disposition.
- Protects, and in some cases extends, rights of vital infrastructure such as ports and aquaculture.

There were many critics of this act that said it did not go far enough to address the injustices of the 2004 Act. The Waitangi Tribunal found, nine years later, that the Act breached the Treaty by not providing a clear pathway for applicants and not funding all reasonable costs incurred by those applicants.[614] It was also generally acknowledged, however, that it was a very marked step up from the legislation it replaced.

This Act and entitlements it brings is now being played out in the High Court in favour of Māori rights.

## “Ko Aotearoa Tēnei” WAI 262

2011 finally saw the release of the “Ko Aotearoa Tēnei” WAI 262 report by the Waitangi Tribunal which consisted of Justice Joe Williams, Keita Walker, Pamela Ringwood and Roger Maaka. The report states that the government has not fulfilled its obligations outlined in the Treaty of Waitangi to recognise and protect the guardian relationships between Māori and their taonga, which include their Mātauranga Māori, artistic works, and culturally significant flora and fauna. The report recommends that future laws, policies, and practices should acknowledge and respect these relationships.[615]

It had been 20 years in the making.

The report has implications for individuals or entities who own intellectual property rights, especially those who intend to register and use trademarks that incorporate Māori words or symbols or seek patents for inventions or plant variety rights that rely on Māori traditional knowledge.

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[614] Hurihanganui, Te Aniwa (30 June 2020). "Takutai Moana Act breaches Treaty of Waitangi - Waitangi Tribunal". Radio New Zealand. Retrieved 22 September 2020.

[615] Ko Aotearoa Tēnei WAI 262 WAITANGI TRIBUNAL REPORT 2011

When making recommendations on Trademarks, Copyrights, and Designs the Waitangi Tribunal recommended:

- The disbandment of the current Māori Trademark Advisory Committee and the establishment of a specialised commission.
- The proposed commission would have the authority to assess applications to register trademarks and designs that incorporate Māori elements. It would determine whether their use could be considered derogatory or offensive to Māori.
- The decisions made by the commission would be binding on the Commissioner of Trademarks and Designs.
- The commission would address objections regarding the derogatory or offensive use of Māori signs, such as words, symbols, designs, or images. Its decisions would be legally binding.
- The commission would have the power to prevent the derogatory or offensive use of Māori works, both existing and future. It would determine what uses are considered derogatory or offensive.
- For certain Māori works or knowledge that have an identified kaitiaki (Māori guardian), their future commercial use would require consultation with and, in some cases, the consent of the relevant kaitiaki.
- Private and non-commercial use of Māori works would generally not be affected, unless such use is considered derogatory or offensive.

With regard to patents and plant variety rights the Waitangi Tribunal recommended:

- The formation of a new committee called the Patents Advisory Committee. This committee would provide advice to the Commissioner of Patents regarding Māori interests in proposed patents.
- The proposed committee's role would involve advising the Commissioner on matters related to the novelty, inventive step, or utility of an invention in relation to Mātauranga Māori. Additionally, the committee would advise on cases where kaitiaki interests, pertaining to guardianship, are at risk.
- The Tribunal recommends that, in cases where a patent contradicts Kaitiakitanga, it could be refused on the grounds of being contrary to ordre public (public order).
- Kaitiaki would have the option to register their interest in specific species to provide advance notice to patent owners about their interest. However, even without registration, the Māori Advisory Committee would still take into account relevant interests.
- Patent applicants would be obligated to disclose whether their application relies on Māori traditional knowledge. This disclosure requirement would be mandatory.

When interviewed on the report, Ngahiwi Tomoana, who was part of the team that continued the work of the original claimants, said “"Wai 262 at the time was seen as a chain for whakapapa of flora and fauna and whakapapa for us as a people.” And that the WAI 262

“protects us in the future from foreign nationals who have more money taking advantage of our IP."[616]

Tomoana said Wai 262 ensured that iwi, hapū and whānau, as the kaitiaki of this whakapapa and whenua, were included in future conversations without closing out foreign interest.

The claim's ultimate goal is to assert Māori sovereignty and self-determination, aiming for Māori to have full control over Māori-related matters. It seeks to restore tino rangatiratanga to the whānau, hapū, and iwi of Aotearoa, granting them authority and autonomy over our cherished taonga, encompassing both tangible and intangible aspects.

Tomoana acknowledged that there is still a significant journey ahead for Wai 262 to be fully implemented. "because we don't want the Crown to be the sole arbitrator of what is Treaty compliant and what isn't. "Ultimately, we want kaitiakitanga in legislation to have Rangatira-to-Rangatira conversations and [the] co-decision-making that we would expect.”

The Māori population experienced a dramatic increase, reaching 15% of the total New Zealand population by 2013. This significant population recovery strengthened Māori demands for greater equality and fair treatment from state institutions.[617]

### Te Urewera Legal Personhood Status

In 2014, a landmark decision was made when Te Urewera Mountain range was recognised as a legal person. This is discussed further in the Indigeneity section of this paper.

The granting of personhood status is not specific to New Zealand, Ecuador changed its constitution 6 years previously and granted nature the right to exist, persist, maintain and regenerate its vital life cycles and two years after that, Bolivia passed the Law of Mother Earth, and gave nature equal human rights.

Deep In Te Urewera National Park, looking towards East Cape[618]

### Lore vs Law

During a 2015, Te Hunga Roia Māori o Aotearoa - Māori Law Society conference, Hon. Justice Joseph Williams emphasised the significance of Whanaungatanga as the fundamental principle underlying both Māori traditions and laws in Aotearoa.

[616] https://www.nzherald.co.nz/kahu/the-wai-262-claim-established-a-foundation-that-allowed-treaty-claims-to-follow-and-flourish/

[617] https://teara.govt.nz/en/Māori-pakeha-relations/page-6

[618] https://commons.wikimedia.org/wiki/File:Towards_East_Cape.jpg

During his presentation he said, **“***To achieve the reality of a legal system that is a reflection of the Treaty partnership there are further steps you need to take as an organisation.*

*You are an organisation trained in the language of power because that is what law really is. You have the codewords and you must use them well if you are to be standing at the stern of this waka navigating us to the correct island. Can you see it*?”[619]

Words, laws, and histories are written by the dominant culture invariably reflecting their cultural imperatives and are biased towards favouring that culture and its people.

Williams highlighted the historical recognition of Māori as exceptional navigators, particularly during the period of Pacific Island migration.

The journey from Hawaiki to Aotearoa was arguably the greatest journey of Polynesian ancestors. It was truly an extraordinary scientific feat required to bring Kupe, Kuramarotini, Matiu, Makaro, and the other 25 members of the Matawhaorua waka crew to Hokianga Harbour.[620]

Kupe possessed knowledge that a small bird known as the pīpīwharauroa embarked on a journey from its tropical Polynesian home on the western edge of the pacific to Aotearoa in September.[621]

The pīpīwharauroa calls out, "Kui kui kui, whiti whiti ora," which represents one of the most beautiful bird songs of Aotearoa.

Kupe had discerned a crucial aspect: the pīpīwharauroa, was not a seabird, lacking webbed feet, it had to rely on flight to reach its destination. The journey spanned an impressive distance of approximately 4,500 kilometres without any stops.

Kupe, guided by his knowledge, also understood that tohorā / whales travelled the same route later in the year. They travelled at a much slower pace, about 6-8 kilometres per hour, accompanied by their young. As their speed was only half that of Kupe's voyaging waka, the Matawhaorua. Kupe theorised that by tracking the tohorā, he would eventually arrive at the island where the pīpīwharauroa was destined to settle.

The Mātauranga Māori / scientific knowledge employed by not only Kupe and Kuramarotini but also the group of approximately 25 navigators who followed in Kupe's footsteps, along with the star chart or "road map" he had memorised from his initial voyage, ensured the successful arrival of all of them and their passengers to this land over the course of the subsequent centuries.

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[619] https://Māorilawreview.co.nz/2015/10/can-you-see-the-island-justice-joseph-williams/

[620] https://teara.govt.nz/en/ngapuhi/page-2

[621] https://teara.govt.nz/en/photograph/7225/shining-cuckoo

Looking ahead to the late 20th century, Nainoa Thompson,[622] originally from Hawaii, made a significant decision in the 1970s. He aimed to rediscover and acquire the navigational expertise pioneered by Kupe.

Nainoa searched for and found one of the last remaining navigators with the expertise of Kupe, a man named Mau Pialug.[623] Mau agreed to travel to Hawaii and impart his knowledge to Nainoa and a small group of aspiring navigators, with the ambitious goal of enabling Hawaiians to undertake a journey that had not been accomplished for centuries: sailing from Oahu to the island of Tahitinui, covering a distance of approximately 4,400 kilometres.

Over a span of two years, they diligently learned from Mau how to replicate Kupe's techniques, becoming modern-day navigators adept at reading the ocean and navigating by the stars. They were on the brink of setting out on their voyage.

Not long before their departure, Mau took Nainoa to the southernmost point of Oahu. There, Mau instructed Nainoa to recite the star chart from Oahu to Tahitinui—a fundamental lesson they had been studying for two years, akin to Polynesian ocean voyaging 101. Nainoa effortlessly recited the chart, displaying his proficiency.

However, Mau then requested Nainoa to repeat the recitation, not once but half a dozen times. Nainoa started to experience a crisis of confidence, questioning Mau's trust in his abilities. He wondered why his sensei was asking him to repeat something he knew inside out and back to front, causing him considerable worry about Mau's intentions. Justice Joe Williams relays the story in his address to the Māori Law Society in 2015

"After about the sixth time, Mau said to Nainoa, "Now can you see the island?" And Nainoa said to me he was perplexed by that question. Because of course you cannot. It is below the horizon. He did not want to screw up. So, he said to Mau: "I don't understand what you mean." And Mau walked away.

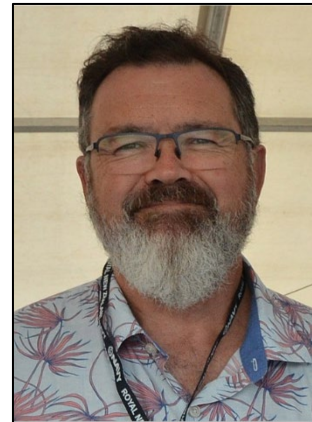
According to Nainoa, they repeated this process for three consecutive days. On the fourth day, they returned once again, continuing the ritual with the elderly Mau asked him the pivotal question once more, "Now can you see the island?" And Nainoa closed his eyes and tried to conjure up the island of Tahitinui in his mind. He said: "Yes Mau I can see the island. I can see it now. Yes, I get it, I get it. I've got it."

And he said Mau smiled and said to him: "You must keep that island in your mind, for you are the navigator. There will be heavy seas and storms and dark starless nights on your journey. You will be tested. You will be safe if you keep that island in your mind. But if you lose that island in your mind, you will die, and your crew will die with you."

[622] https://www.hokulea.com/crewmember/nainoa-thompson

[623] https://en.wikipedia.org/wiki/Mau_Piailug

According to Nainoa, that lesson became the most significant one he had ever learned in his life. Its importance extended beyond navigation—it was a lesson about leadership.



Justice Joe Williams[624]

To bring this into context, not only for the Māori Law Society in 2015, but also this paper today, Justice Williams went on to say, "My challenge to you, Te Hunga Roia Māori o Aotearoa, is to have that island in your mind when you embark on your own leadership journey.

Their vision was for a nation that embraced not only a bi-cultural identity but also a bi-legal framework—a Treaty partnership deeply embedded within the constitutional arrangements. They wished to create system wherein both Tikanga Māori and te Ture Pākehā could exist in harmoniously. This radical vision is reflected in their choice of a name: the Māori Law Society, which carries significant historical weight despite being somewhat obscured by the passage of time.

The hui in 1988 was attended by a modest group of 30 individuals. However, over the years, the Māori Law Society has experienced substantial growth and progress. By 2018, the number of delegates had increased significantly to over 300.[625]

This expansion highlights the increasing influence and relevance of the society within the legal and Māori communities.

In the present day, the annual hui of the Māori Law Society is graced by esteemed attendees, including the Chief Justice, Chief District Court Judge, Deputy Chief Māori Land Court Judge, and a diverse group of judges from various jurisdictions. Notably, the gathering also attracts renowned international judges, particularly from the Pacific region. These developments signify the growing significance of Te Ao Māori.

However, despite these advancements and the progress made, the question remains:

Have we reached our destination? Have we accomplished our mission? The resounding answer to these inquiries is a definitive no. The journey is far from over, and there is still much work to be done.

[624] https://commons.wikimedia.org/wiki/File:Joe_Williams_(cropped).jpg

[625] https://Māorilawsociety.co.nz/en/about/

## The Struggle Continues

By 2015, there were 5,000 cases involving children in care (CYPS) in the country, and 3,000 of those cases involved Māori children.

Māori representation was also significant in the Waikato Mental Health system, with 53% of compulsory treatment patients being Māori. Additionally, Māori accounted for 40% of all apprehensions made.

The number of prisoners in the country was 8,600, and 4,300 of them were Māori. 40% of adult Māori men had either served prison sentences or community-based sentences. In the general population, approximately 200 individuals out of every hundred thousand were incarcerated, while for Māori, the figure was nearly 700 out of every 100,000. These statistics underline the overrepresentation of Māori in various negative indicators within the justice and social welfare systems.

Damning reports have been released regarding Māori children being separated from their whānau. As of 2018, Māori babies are five times more likely to end up in state care - 61 were ordered into state care before they were born, as opposed to 21 non-Māori. The rate of state custody for Māori under the age of 18 was almost seven times higher than non-Māori, up from five times higher in 2014.[626]

In a Radio New Zealand interview in 2020, Judge Becroft said the statistics raised clear questions about racism and bias within the state care sector. "I've said previously that it's impossible to factor out the enduring legacy of colonisation... or modern-day systemic bias." He stated that the inequities for Māori had grown over time and continued to worsen. Justice Williams states that, Tikanga holds relevance in every facet of modern law, yet we fail to provide it with a platform to be heard."[627]

## Redress for Rangiriri

After many years of hurt, pushing for acknowledgment and action, the Hapū in Rangiriri finally gained some redress in 2017 with the redirection of State Highway 1 from its course through the original Pā site after the confiscations of the Waikato land wars. Kaumātua of the Kahui Ariki, Tumate Mahuta, had a vision of filling in the old State highway pa site and bringing back the mauri of the Pā. This was achieved with working with the NZTA and was the first known example of reclaiming the whenua and the mauri of a Pā in Aotearoa history.[628]

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[626] https://www.rnz.co.nz/news/te-manu-korihi/407431/Māori-babies-five-times-more-likely-to-end-up-in-state-care-stats

[627] https://Māorilawreview.co.nz/2015/10/can-you-see-the-island-justice-joseph-williams

[628] https://www.beehive.govt.nz/release/new-highway-and-battle-rangiriri-commemoration-site-opened

As national interest has grown over the massacre that happened In Rangiriri, and New Zealand history is being made compulsory in schools, Brad Totorewa, Chief Executive of Ngāti Ngaho Kaitiaki has welcomed the focus as Rangiriri is a place the Crown tried to forget. In the century since the battle, the scene of significant bloodshed has been turned into farmland and carved out by a motorway.[629]

He called for resourcing of Kaiako who will be needed to teach the history that has been ignored by government and non-Māori for decades. "The problem is that resourcing doesn't come with the demand," he said. "So, schools are forced, to a certain degree, to try and engage the special knowledge that our people have but aren't able to resource it." Currently Iwi are having to resource their people to educate students in schools and are calling for government funding to assist." As Totorewa asks "In what other realms are government contractors were expected to work for only an occasional koha?"[630]

## Whanganui Awa Legal Personhood Status

2017 also saw the next step taken in recognising the rights and status of nature when the Whanganui Awa's legal rights as a person were recognised with the passing of the Te Awa Tupua Act 2017.

Whanganui Awa confluence[631]

Instead of a board being appointed, as was done in Te Urewera, two Pou Tiaki were appointed to act and speak on behalf of the awa. The two originally appointed were Dame Tariana Turia and Turama Hawira. The act also listed other acts of law that were applicable which will have interesting ramifications going forward. How Te Awa Tupua is to be legally treated and the acts that apply are:

(a) an institution for the purpose of applying for registration as a charitable entity under the Charities Act 2005

(b) A public body for the purposes of clauses 30 and 30A of Schedule 7 of the Local Government Act 2002:

(c) a public authority for the purpose of section 33X of the Maritime Transport Act 1994:

[629] ibid

[630] https://www.rnz.co.nz/news/te-manu-korihi/447930/burden-of-history-iwi-hapu-struggle-with-demand-for-school-support

[631] https://commons.wikimedia.org/wiki/File:Maunganui_a_te_ao_Confluence_with_Whanganui_River_-_panoramio.jpg

(d) a registered collector of taonga tūturu for the purposes of section 14 of the Protected Objects Act 1975:

(e) a public authority for the purposes of the Resource Management Act 1991:

(f) a body corporate for the purpose of applying to be a heritage protection authority under section 188 of the Resource Management Act 1991:

(g) a public body for the purposes of sections 4 and 35 of the Walking Access Act 2008.[632]

Taranaki hapū are in the final stages of negotiations to have the legal person status of Taranaki Mounga recognised. Jamie Tuuta is the independent chair of the Taranaki Mounga entity designated to look after the mounga.

In an interview on the legal person status, he said that "It really reflects how we've always viewed our maunga as ancestors. It will have legal rights and privileges and therefore have standing in particular processes."[633] Processes such as being represented in Court and giving submissions to select committees etc.

Joseph Williams became the first appointed to the Supreme Court in 2019 after having been the Chief Judge of the Māori Land Court in 1999 and Waitangi Tribunal chair in 2004.[634] Well regarded by his peers, Justice Williams has been viewed as "…elevating our Māori culture to the whole nation, he is promoting Māori language in law, and (there being) no higher plateau than in the Supreme Court."[635]

Annette Sykes, a well-recognised Māori lawyer, studied alongside Williams and said of his appointment, "I think for the Māori world, the significance of the rise of one of our greatest legal minds to that position, given that it's taken so many years to achieve, is a milestone."

"It's the kind of development that will ensure the recognition of the underpinnings of the first law of this nation, tikanga Māori, and how the intersect of that law, the introduced colonisers law, is important in future decisions that advance justice between and amongst the communities that co-exist in Aotearoa."[636]

[632] https://www.legislation.govt.nz/act/public/2017/0007/latest/whole.html#DLM6831459

[633] https://www.1news.co.nz/2023/03/31/taranaki-maunga-one-step-closer-to-having-the-legal-status-of-a-person/

[634] https://www.rnz.co.nz/news/national/388307/joe-williams-first-Māori-judge-appointed-to-supreme-court

[635] https://www.teaoMāori.news/original-voice-Māori-renaissance

[636] https://www.rnz.co.nz/news/national/388307/joe-williams-first-Māori-judge-appointed-to-supreme-court

## Ngā Tamatoa, our History and Education

The journey for recognition of Aotearoa's true history to be taught in schools was highlighted again with Taitimu Maipi, an original member of Ngā Tamatoa, protested against the words of Sir William Gallagher, knighted for services to Business, when he spoke at a Gallagher Conference in 2017. Gallagher claimed that the Treaty of Waitangi documents in Te Papa were fraudulent and that the whole concept of the treaty itself was "a rort". Sir William is the son of the founder of the Gallagher Group and inventor of the electric fence, Bill Gallagher.

The level of entrenched racism in New Zealand as perfectly encapsulated in this event. Here is a man whose father was born in the heart of the Waikato-Tainui rohe, who's family life and fortune was made in the Waikato. As Maipi said in his protest, "At that age, (Sir William) should have learned something the time that he's been in Tainui."

Maipi protested by donning white robes with the letters KKK written in red on them and went to the offices of the Gallagher group and asked to speak with Sir William. Predictably the staff of the building locked the door, Maipi stayed long enough to make his point and left without incident.

This was not the end of the story however, Maipi was inspired to protest by the news that the land wars would continue to not be taught in schools[637] and a columnist's article pointing out that the Gallagher group were responsible for the commissioning and installation of the statue of Captain Hamilton, after whom the city is named.

Taitimu Maipi

The article expressed surprise that the statue hadn't been vandalised after the inflammatory speech by Sir William.[638] Maipi proceeded to just that and covered the statue with red paint and attempting to break its nose with a hammer. After his protest, Maipi proceeded to the Hamilton City Council office and gave his contact details.

The fallout from the protest was an investigation into the history of the statue and several street names – Grey, Bryce and Von Tempsky, named after men who had led battles against Waikato-Tainui.

The protest was successful in bringing the issues of colonial history and education into the public eye. Coupled with the Black Lives Matter movement and the Charlottesville riots in the USA, the protest raised the issue to the political level and as such, an announcement in

[637] https://www.stuff.co.nz/national/106691019/captain-hamilton-statue-vandalised-in-hamiltons-main-square

[638] https://www.stuff.co.nz/waikato-times/opinion/106504496/statues-of-colonial-white-guys

September 2019 was made by the Ministry of Education that NZ history would be taught in schools[639]

Matariki, was declared a national public holiday on Friday 24 June 2022, bringing the work of Dr. Rangi Mātāmua into fruition and promoting further understanding of Mātauranga Māori throughout Aotearoa.

In 2020 the Waitangi Tribunal found the Marine and Coastal Area (Takutai Moana) Act 2011 act breached the Treaty of Waitangi. The tribunal found the Act failed to provide adequate and timely information about the Crown engagement pathway for applicants, and that it had breached its Treaty Duty of active protection by not funding all reasonable costs incurred by the applicant.[18]

### Ngati Maniapoto Settlement

September 2022 marked the moment that Ngati Maniapoto finally reached settlement with the Crown. 30 years of reports, research, hui and negotiations culminated with the government apologising for historical breaches of the treaty and an agreed historical account. The settlement included 36 land blocks vested back to Ngati Maniapoto, including Te Puna o te Roimata – Where Ngati Maniapoto had the hui to confirm their endorsement of Te Wherowhero as king.

$165,000,000 in pūtea was agreed by the Crown, including the purchase of Mangaokewa, Pirongia, part Pureora North and Tawarau Crown Forest licensed land.

Commercial redress was agreed, that being:

- The right to purchase 42 Crown properties within a deferred selection period of two years. Six of the properties, if purchased, will be leased back to the Crown.
- A right of first refusal over Crown-owned land in the RFR area, specified Crown-owned and Waikato District Health Board land and land owned by the Crown and administered by the New Zealand Railways Corporation that forms part of Te Ara-o-Turongo between specified points.
- 95 Kāinga Ora — Homes and Communities properties; and
- remediation of the former Tokanui Hospital site and offer of the properties as staged deferred selection.

All memorials on privately titled land were removed and the settlement is not inclusive of any contemporary claims that Maniapoto may have or will need to lodge.

Ngati Maniapoto tangata whenua were excited and relieved to see the battle for recognition and compensation finally over. Many expressed their appreciation for the work of their Tipuna no longer there to be able to see the fruits of their labour:

[639] https://www.education.govt.nz/news/including-new-zealand-history-in-the-national-curriculum/

"I'm 21, so that fight had started before I was even born, so it's cool to see in my lifetime how long it's taken, and we are finally here," - Gemma Guiney.

"I'm one of five sisters here today. Why should we be here? - Because it's about our nannies. They would be crying because they'd be emotional, and they'd be proud because the mokopuna is following in their journey." - Maggie Taite.

"Finally... finally, in my time. I didn't think it would, but thank goodness," - Mary Sulfa.

Te Nehe-nehe-nui settlement entity chair, Bella Takiari-Brame, spoke of the negotiations of the past 30 years as being difficult.

"It's always a journey right and it just means a lot more. We've got a stronger foundation to start with and we have come together. We are more united because we have taken that time.

Kaumātua Tom Roa said the settlement gave the iwi a sense of opportunity and freedom and that, "We now have the opportunity to realise our own aspirations through our own means and I think that's probably the most important thing, is that we have our own future in our own hands."[640]

Maniapoto Māori Trust Board chair Keith Ikin recognised the need for improvement in relations between Ngati Maniapoto and the Crown going forward from the settlement.

He said that the negotiation period, "reshaped our relationship with Crown agencies. We no longer want our families to be just the recipient of Crown policies because clearly (the policies) have not worked over many generations. He also said that the Iwi thinks the "solution for us is to be involved in a much stronger relationship with the Crown, in the design and structure of those policies, right through to implementation."[641]

A 5-year plan has been developed to give direction and purpose for the settlement and, critically, to ensure accountability of the settlement trust back to its Iwi. An integral part of this plan is the development of Charitable and Commercial entities to administer to the needs and aspirations of the Iwi.

Ikin addressed the hurt sustained over many generations from the genocide and greed of the pākehā government and the effect the settlement had on Ngati Maniapoto saying, "No settlement will ever compensate for the mamae we have endured for many generations.

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[640] https://www.rnz.co.nz/news/te-manu-korihi/475309/emotions-run-high-as-ngati-maniapoto-secures-agreement-with-crown

[641] https://www.stuff.co.nz/pou-tiaki/126957770/an-apology-and-177-million-in-financial-redress-as-ngti-maniapoto-settles-with-the-crown

We reflect on the courage and sacrifice of our tūpuna and the generations of our people who have gone before us.

“We held fast to our mana whakahaere and achieved a relationship with the Crown that reflected the expectations our forebears set out in their signing of the Treaty of Waitangi, within Te Ōhākī Tapu and within the Kawenata of 1903.”

## Māori Economy Investment

2022 also saw progress with regard the WAI 262 claim and Waitangi Tribunal recommendations. The government announced that it had allocated $27.6 million of funding over the next four years to Te Pae Tawhiti, a programme supporting research and innovation in the Māori economy.

Nanaia Mahuta, Minister for Māori Development, made the announcement saying that, “Budget 2022 funding will contribute to helping create economic security now and into the future by enabling Māori businesses to use Mātauranga Māori to diversify Aotearoa’s exports through targeted investment in the Māori economy.”[642]

She goes on to state, “Mātauranga Māori and taonga are unique to our national culture and identity. In order to continue to benefit from them, we need systems in place to ensure they retain their integrity and flourish for all in Aotearoa,”

The investment will fund the continuation of research that will help in the protection and retention of Mātauranga Māori and Māori being the guardians thereof.

## The Next Generation

Rangatahi are recognising the need to step up and act as change agents in the political arena. In June 2023, twenty-year-old Hana-Rawhiti Maipi-Clarke, granddaughter of Taitimu Maipi, the Ngā Tamatoa member who took to the Captain Hamilton statue in its namesake city with a hammer and red paint in 2018, announced she will contest Hauraki-Waikato seat as a Te Pāti Māori candidate.

Steeped in the history of Ngā Tamatoa and its role in the cultural renaissance of Māori, Hana-Rawhiti Maipi-Clarke carries that banner forward.

[642] https://www.beehive.govt.nz/release/new-funding-protecting-and-enabling-m%C4%81tauranga-m%C4%81ori

Maipi is also the grand-niece of a pioneer of the Māori language movement: Hana Te Hemara, who delivered the Māori language petition on the steps of Parliament in 1972.

She, like many Rangatahi in Tainui, has a strong Māori upbringing. They have risen up through the kura kaupapa movement and began their education in Kohunga Reo, and many graduate from Waikato University having completed all of their studies [and degree] in Te Reo. As her father said on her nomination, "Is she political? Absolutely. Does she have it in her? Absolutely."[643]

## Renaissance Conclusion

Noted Tainui historian Rahui Papa said one of the legacies of the war in the Waikato was to establish and entrench a pathway of mana motuhake. Even with the devastation that was suffered, it showed Māori that there is nothing they cannot overcome.

He also said that we must learn the lessons of our tīpuna that fought in those battles, their strategies, visions and creations. They established banks and mills and industry, churches and Whakapono despite a government that didn't honour the Treaty of Waitangi and having 1.2 million acres confiscated, they set a pathway for their mokopuna to be able to overcome the hurdles in front of them as well as the psychological damage.[644]

In the years that followed we have seen Māori rise and take control of their destinies through politics, protest, law, health and language. The socio–economic and geo-political shift that began in the 1970's has continued revitalising of Te Reo Māori and a restoration of mana motuhake within Māori communities.

Events such as Dame Whina's land march sparked that generated the Bastion Point occupation in 1977-78, Moutoa Gardens in 1995, and the Foreshore and Seabed march in 2004 highlighted injustice towards Māori to the point it could not be ignored, and laws were enacted changing the course of New Zealand's history.

The 1980s marked changes in the relationship between Māori and Pākehā. Māori became highly visible in all aspects of New Zealand life, and open about, and proud of, their cultural identity. The "Te Māori" art exhibition was the first time for many Māori seeing their art, culture and customs honoured and respected on a national and international level.

Te Reo Māori is increasingly learned and used by non-Māori as well as Māori. Although Māori are still under-represented in professions and over-represented in prisons; specialist media such as Māori Television and Māori, past and present, who are leaders in their fields

[643] https://www.stuff.co.nz/national/waikato/300917482/granddaughter-of-hamilton-statue-activist-to-contest-haurakiwaikato-seat

[644] Extended Interview for NZ Wars: Stories of Tainui with tribal historian Rahui Papa. 2021

such as Dame Whina Cooper, Justice Joe Williams, Taika Waititi and Dame Noeline Taurua, are transforming the image of Māori in the minds of non-Māori.

The late 1980s and 1990s saw acts of Parliament and entities being created that acknowledge the injustices of the past and provided avenues for addressing them where there had been no viable ones before.

Through these entities, such as the Waitangi Tribunal, Māori were finally able to seek acknowledgement and redress for the decimation of their culture, taonga, environments, the future needs and aspirations of their Tipuna and, ipso facto, their own.

The settlements reached thus far provide some means of levelling the playing field, providing resources and opportunities for Māori to pursue mana motuhake. There is, however, no amount of pūtea that could ever compensate for the mamae felt by Māori and even though some whenua Māori has been returned, it is not even close to all that was taken by illegality, force and death.

Māori also acknowledge that too much time has passed and that the majority of people that have homes on stolen whenua do not deserve the fate dealt to Māori, one cannot settle a grievance by committing another.

Education is a key element in moving forward, the fact that New Zealand history is finally going to be taught in schools is a big part of that. The question remains as to what version of history is to be taught?

If it is to be sanitised and made palatable enough to assuage pākehā guilt, then that is no outcome at all. We must all be able to see and feel the hurt sustained in the dark times of the New Zealand wars, we must be able to understand and feel the reverence Māori have for the Moana, the Awa, the Maunga and the Whenua, for Te Ao Marama.

We must also guard against the coming of the new wave of assimilation in the form of Intellectual Property law and the exploitation of Mātauranga Māori. The WAI 262 findings and recommendations show clearly that Mātauranga Māori, Te Reo, and the flora and fauna of indigenous New Zealand are taonga tuku iho that Māori have a right to enjoy and protect and have the instruments with which to protect them.

Māori were asked, then forced to conform to the Pākehā world view, its values, laws and cultural imperatives. This must be universally acknowledged, not just by government but by the people of New Zealand.

It is now time for the pendulum to swing the other way. Māori need to continue to regain what was lost through assimilation and return to their indigenous roots. Pākehā need to recognise that the way forward is for them to understand, adopt and enhance indigenous values if we as a people and Aotearoa as a country are to survive and thrive.

To do so, learning the lessons of the past, celebrating the successes, and returning to the values that allowed the creation of the Ta Ao Māori Primary Production model of the

“Golden Years” means that those years can come again. Māori and non-Māori alike can move forward into a sustainable, equitable future.

Interestingly, at The Centre of Excellence – Designing Future Productive Landscapes at Lincoln University, this message is beginning to be heard. This exhibited in the research theme title, Toitū te whenua, at the University which is, “a call to action to hold fast to the land *and* sustain it. Toitū te whenua, toitū te taiao, toitū te tangata, toitū te mauri ora – emphasises the interdependence of land, environment, people and all living things.”

Research is focused on processes, approaches, practices and technologies to reconnect, repair and regenerate these elements – including whenua, wai, mahinga kai and other natural resource taonga in their constituent ecosystems, catchments and takiwā (regions) – according to the Mātauranga Māori principle of `ki uta ki tai’.

This has the potential to recalibrate land diversification and primary production to enhance sustainability, resilience, productivity, wellbeing and prosperity, within a kaitiakitanga / rangatiratanga framework, and focus on repairing, maintaining and enhancing the mauri – or regenerative capacity of te Taiao.

This research mirrors what is called for in this paper – the development of a primary production industry wide return to a regenerative rather than extractive approach to land and resource use.

The indigenous learnings of the past define the process needed to unlock the knowledge that can reset this compass.

Puritia nga taonga a o tipuna

Hei tikitiki mo to mahunga

*Within the teachings of our ancestors we will find the skills and*

*the knowledge to protect our resources - hold fast those treasures they provide.*

# Rangatahi – the Change Agents.

“Ko tātau ngā rangatira o apōpō – we are the leaders of tomorrow!”

Rangatahi Māori are active in environmental and educational reform and the delivery of culturally relevant education. Findings and recommendations from national surveys in 2022 across 250 Marae and roopu Māori found the following.

Rangatahi Māori – Future Leaders[645]

**Quality education** for Rangatahi includes:

1. Education to be fun and free, where alternative models are accepted as “school’s not for everyone, but it could be!”
2. Learning off our pakeke as to how to look after whānau; recognition of whakapapa, history (our history), whakatauākī, kīwaha and mātauranga-ā-iwi.
3. Political and civic education to raise awareness on all matters. Education on coping mechanisms and emotions, stress management etc, especially for our men.
4. Marae-based education and maintenance of Māori arts; revive whare wānanga styles that cater for all aspects of life, balanced between traditional knowledge and what is offered in today’s mainstream education – practical Māori knowledge e.g.: mau rākau and Mātauranga Māori as a science.
5. Making te reo a core component, so it can be revived and embraced by everyone into a living language.

## Te Taiao

**Te Taio** featured strongly.

The health and wellbeing of our natural environment, Ranginui and Papatūānuku.

A key concern for many of our rangatahi countrywide was the lack of protection for our natural environment here in Aotearoa New Zealand.

Rangatahi regularly identified multiple instances where our natural resources have been depleted, compromised or put up for sale. As such, they strongly opposed harmful processes that compromised our natural environment, whenua, forests and waterways, like fracking and mining.

[645] https://commons.wikimedia.org/wiki/File:Young_Māori_man_dancing.jpg

Rangatahi were more in support of retaining, maintaining and restoring our environment rather than selling them because as one rangatahi said: “They are called assets for a reason!”

Koru – “New Life”[646]

Consequently, rangatahi called for any new focus in education that we may build to include the recognition and protection of our natural environment, ensuring that Ranginui and Papatūānuku are adequately cared for.

Moreover, rangatahi called for no pollution and to treat our whenua, lakes, rivers and other water bodies with respect. Within this, rangatahi called for the reclaiming of our traditional knowledges and the associated kawa and tikanga so that we as tangata whenua are able to live off the land again; gather, preserve, hunt and fish for our own kai; ensure that our practices are sustainable and that our kāpata kai are preserved and protected for future generations to come.

Threaded through all of these desires was the aspiration and need to reclaim and uphold our mana whenua and our mana moana, so that we have the right, ability and power to make decisions and uphold this as whānau, hapū and iwi.

## Mana

The mana motuhake of tangata whenua through kawa and tikanga, He Whakaputanga, Te Tiriti o Waitangi and the UN Declaration on the Rights of Indigenous Peoples.

Throughout many of our conversations, rangatahi shared their concerns about the current political environment. Rangatahi clearly identified that the current political system in place does not work or support many of our whānau, nor does it provide a space for mana motuhake. Moreover, they expressed alarm over a number of issues to do with power.

Many asked critical questions like: Who is it that actually controls our country? Is it really Pākehā or the Crown? Or is it actually foreign businesses? Why is that we can only have a political say when we are 18? We can hold a driver’s license and gun license at 16, be conscripted to go to war at 16, and consent to sex at 16; but we can’t politically participate?

The current educational system does not work and our rangatahi know it – why are changes not being made? Youth emphasised their potential as a driving force, “ko tātau ngā rangatira o apōpō – we are the leaders of tomorrow!”

[646] https://commons.wikimedia.org/wiki/File:Mamaku_Koru_-_%22New_Life%22_(50161425586).jpg

As such rangatahi called for a refocus in educational on recognition and protection of our mana and political status as tangata whenua. Within this rangatahi also called for the recognition and protection of our diversity as hapū – not just iwi – and our right and ability to self-govern.

For rangatahi, any future focus in education therefore needs to be underpinned by Māori whakaaro and philosophies, such as kawa and tikanga. For those that knew about them, this included He Whakaputanga o te Rangatiratanga o Niu Tireni, Te Tiriti o Waitangi, and other relevant documents like the United Nations Declaration on the Rights of Indigenous Peoples.

## Mātauranga Māori

Another pressing issue that rangatahi raised was the need to reclaim and restore our traditional knowledges, systems and institutions.

This covered a range of kaupapa, including:

- Recognising and acknowledging the kawa and tikanga of each marae, hapū and iwi.
- Restoring, reclaiming and re-practicing our tikanga and kawa.
- Learning, teaching and transmission of Te Reo Māori.
- Retelling our own histories in our own ways.
- Learning and understanding how our tipuna lived before us.
- Understanding the roles of men and women, tuakana and teina, and their importance in our societies.
- Ensuring that Te Ao Māori becomes a living reality for us as tangata whenua. Rangatahi expressed the need to acknowledge and celebrate the differences between each hapū and iwi, including the kawa and tikanga of each hapū, te reo Māori and its different mita (dialects).

In addition to this rangatahi identified some fundamental values that they thought should be provided for and recognised in a focus in education:  manaakitanga (nurturing the mana of others), kaitiakitanga, kotahitanga, mana, muru (redress), utu (restoration of balance), and hohou te rongo (establishing peace).

If these were recognised, provided for and protected within a focus in education, rangatahi felt they themselves, their whānau and the wider Māori community would be enabled to confidently engage, connect and be actively involved in society.

## Kotahi Aroha- Peace and Respect

The rights of all people to peace and mutual respect, 'kotahi aroha'.

This was an all-encompassing theme that includes the way that we treat one another, the rights of and need to respect all peoples, and the balancing of male and female roles and responsibilities.

Rangatahi felt that the need to change attitudes towards one another was integral to this. Whilst respecting Māori as tangata whenua, rangatahi felt it important for all peoples to be able to maintain their culture; to learn and continue the ways of their tīpuna and to maintain social connections through traditional ways, particularly for our collective health and wellbeing.

Rangatahi also identified other key values and aspirations such as:

- Opportunities to make a living and for greater livelihood must increase.
- Pūtea should never come before people.
- Whānau should always come first and,
- Our economy should not necessarily be based on money alone.

Furthermore, many rangatahi noted that diversity should be celebrated, and the oppressive harassment that continues from entities like the police of selected communities needs to stop. Rangatahi went on to discuss alternative methods of monitoring or regulating misbehaviours. Instead of prisons, some rangatahi felt that justice should be returned to the communities.

They noted that perhaps the inclusion of processes like hohou te rongo or muru would be a better method to address misconduct as opposed to in school punishment. The rights of all people to peace and mutual respect rangatahi therefore believed should be a key part of any new focus in education.

## Wellbeing

The rights of all to access education, health and well-being. Rangatahi nationwide hoped that a new focus in education would reflect and provide for a refocus in educational recognition and protection of the rights of all to culturally appropriate education, health and wellbeing.

Rangatahi made note that they hoped to see a system that included:

- Rongoā Māori health techniques.
- The promotion of healthy lifestyles where whānau are aware of their diet and nutrition and are discouraged to smoke.
- Kai Māori, kaimoana and rongoa is available and accessible.

- Out people are not only caring for their bodies, but their **hinengaro,** their **wairua** and their communities too.
- **Te ira tangata and te ira atua are reconnected.**
- A system that works to re-engage and reconnect with those of our whānau who are disconnected from their taha Māori, whānau and whenua.

Rangatahi are emerging as the change agents needed for the future.  They are less concerned with individual wealth and assets and are more and more returning to traditional values and seeking holistic solutions to the needs of Papatūānuku and their whānau and communities. This can be attributed to several factors:

- **Cultural Revitalisation:** Rangatahi Māori are often actively engaged in cultural revitalisation efforts, which involves reconnecting with their Māori identity, language, customs, and traditional knowledge. This revitalisation process often emphasises collective well-being, community connections, and the interconnectedness of people and the environment.
- **Interconnectedness with Papatūānuku:** Māori have a deep connection to the land, known as Papatūānuku, and view themselves as inseparable from the natural environment. Rangatahi Māori, recognising the importance of environmental stewardship, may prioritise sustainable practices and seek holistic solutions to address the needs of both the land and their communities.
- **Communal Values:** Traditional Māori values prioritize collective well-being and the interconnectedness of whānau, hapū, and iwi. Rangatahi Māori, influenced by these values, may prioritise the needs of their whānau and communities over individual accumulation of wealth. They may seek solutions that benefit the entire community rather than focusing solely on personal gain.
- **Historical and Intergenerational Trauma:** The impacts of colonisation and historical injustices have had profound effects on Māori communities, including economic disparities and social inequalities. Rangatahi Māori may be motivated to address these systemic issues and work towards holistic solutions that address the root causes of inequality and promote overall well-being.
- **Sense of Identity and Belonging:** Embracing traditional values and seeking holistic solutions allows rangatahi Māori to strengthen their sense of identity and belonging within their culture and communities. By reconnecting with their ancestral heritage and values, they find purpose and a sense of responsibility to contribute to the well-being of their whānau, hapū, and iwi.

## Rising Above the Odds

The shift in perspective and the solution focus shown by many Rangatahi is astonishing, given the background many have come from and the ongoing institutional racism they suffer. They are rising above the odds [just as their tupuna did in the darkest days of colonisation.]

These issues were recently highlighted in an opinion piece written by **Denis O'Reilly[647].**

This was to do with the president of Black Power's Whanganui chapter, Damien Kuru, who is currently in prison for manslaughter. A jury found him guilty in the killing of Kevin Ratana, a Mongrel Mob member, though he wasn't there when the shooting happened, and there was no evidence to tie him to the killing, either directly or indirectly. Last month, an appeal against his conviction was declined.

Rangatahi suffer from the same characterisation of this young Māori man, a husband and father of three children, as just another gang lowlife deserving of the worst that the criminal justice system can throw at him. They suffer from a caricature, and contemporary racist euphemisms deployed in Aotearoa New Zealand for "Māori and Pasifika youth". It fuels fear and hysteria about criminal gangs, and allegedly unpunished lawlessness by ram-raiding Rangatahi.

Māori youth can't make progress when politicians are tossing around words like "subhuman", "crypto fascists" (Shane Jones), or "domestic terrorists"?

There was no evidence tying Kuru to the shooting of Ratana. Everyone involved in the case agrees this is a fact. Kuru wasn't there, and he has been steadfast in refusing to concede that, as the president of Whanganui Black Power, he ordered or even silently endorsed the action of his members in shooting Ratana.

To convict him, the jury relied on the evidence of a police "expert", Detective Inspector Craig Scott, who held that there was a chain of command within Whanganui Black Power that meant Kuru must have ordered or endorsed the killing. Although not acquainted with Kuru, nor the Whanganui chapter of Black Power, Scott argued that Kuru was responsible for the actions of his members because he would have held "final authority over all chapter business and its members".

That a man can be sent to prison based on such fiction is deeply concerning. Justice Ellis noted that: *"Gangs in New Zealand — and, in particular, indigenous gangs such as Black Power and the Mongrel Mob — have too long and too easily been condemned as the cause of a raft of social ills when, in reality, they are symptoms of much deeper problems, many of which stem from our history as a country. I agree with that."*

For many Māori, that history means colonisation, land loss, loss of the reo, marginalisation, compounded later by urban drift. Poverty in every sense of the word surrounds them, but particularly — the Court reports point out — poverty of spirit.

[647] https://www.nzherald.co.nz/kahu/the-damien-kuru-manslaughter-conviction-is-troubling-me-on-so-many-levels/CZ6JKATMWJBQBNJNTBORR3IPX4/

Justice Sir Joe Williams, in sentencing a gang member, once said: "*Your anger and aggression is part of your personality, and you make a free choice in that regard. But it is also a response to the drivers I've discussed that aren't of your making at all, to the way the world responds generally to Māori boys and men from poor backgrounds. We must be honest with ourselves about that."*

Dame Tariana Turia[648]

Dame Tariana Turia once described this as *"communal post-colonial traumatic stress disorder". "How do we heal the wounded spirit?"* she asked.

They have suffered the negative consequence of being poor, young and brown in contemporary Aotearoa New Zealand without enjoying any of the compensating advantages of a strong sense of Māori identity.

In his book *Patched: The History of Gangs in New Zealand*, Dr Jarrod Gilbert refers to the lens of "Blue Vision", which he says exists when police uphold a belief regardless of the evidence against it. He says that the false story becomes ingrained in the collective police culture, and they are blind to anything that may contradict it.

The Blue Vision paradigm presented at trial to the jury by Detective Inspector Scott leaden, simplistic, and pedestrian at best. Seemingly detached and independently observant, it read like an ethnographic primer.

Nowhere in the trial was there discussion of whakapapa, tikanga, or the troubled post-colonial history of the people of the Whanganui River. While there is a plethora of literature attesting to the complexities of the dual world faced by Māori in effectively engaging with the New Zealand criminal justice system, the Crown does not discuss this magnified duality where the Māori offender is also a member of a subcultural cluster as a gang member.

At the Court of Appeal hearing on the case, two judges, Justice David Collins and Justice Matthew Muir, denied the appeal. However, one, Justice Cull, found the conviction was unsafe. Justice Cull's concerns arose in part from the evidence provided at trial by Detective Inspector Scott. Justice Cull considered this evidence to lack "probative value" and to be "highly prejudicial". Consequently, Justice Cull considered that this led the jury into "impermissible reasoning" and an "unreasonable verdict" resulting in an "unsafe conviction".

But he is still in prison.

A few weeks after this appeal was denied, Kuru said. *"It raises more questions than anything ... if they go by the book, then their decision doesn't make sense. That's the definition of*

[648] https://commons.wikimedia.org/wiki/File:Tariana_Turia_2018.jpg

*racism. The evidence says I had nothing to do with it. Even the judge's comments verified what I already knew. Just for the jury to go the other way."*

As O'Reilly says, "*This case raises matters of prejudice and the racist structure of our legal system. Parliament starts the day with a prayer to a Christian deity. Let me remind all members that the Christ to whom you pray said that when you cast down unfairly on the least of us, you do so unto Him."*

These injustices are the day to day lived experiences of Rangatahi Māori, all of whom have relatives who have been subjected to these treatments, if not directly experiencing them themselves. The fact that they have the strength to be the change they want to see and to be the ones who will drive te Ao Māori land diversification is a testament to their ancestors who taught them the strength and lessons of resistance.

One powerful quote on indigenous youth resistance to cultural oppression is:

*"Our youth are not failing the system; the system is failing our youth. Ironically, the very youth who are being treated the worst are the young people who are going to lead us out of this nightmare."* - Russell Means

This quote by Russell Means, an Oglala Lakota activist and leader, highlights the strength and resilience of indigenous youth in the face of cultural oppression. It emphasises that indigenous youth should not be seen as the problem but as agents of change who possess the potential to transform society and overcome the challenges they face. The quote challenges the prevailing narrative that portrays indigenous youth as lacking or deficient, instead recognising their power and their role in leading positive change.

## Indigeneity – Concepts and Definitions.

Indigeneity creates a connection to Mother Earth / Papatūānuku through a holistic worldview that recognises the Earth as a living entity and emphasises the reciprocal relationship between humans and the natural environment. This connection is deeply rooted in cultural, spiritual, and historical ties and involves sustainable practices, traditional ecological knowledge, and a profound sense of stewardship towards the land. To care for the whenua is to care for tangata.

Indigeneity refers to the cultural and ancestral connections of indigenous peoples to a specific land or territory – their rohe. For many indigenous communities, the concept of Mother Earth, or Papatūānuku, plays a central role in their cosmology, spirituality, and worldview. The connection between indigeneity and Mother Earth is deeply rooted in the belief that humans are an integral part of the natural world and that they have a reciprocal relationship with the Earth.

Indigenous peoples view the Earth as a living entity, imbued with spiritual and sacred qualities. They see themselves as stewards of the land, with a responsibility to care for and protect it for future generations. This perspective recognises the interconnectedness of all living beings and the interdependence between humans and the natural environment. A natural symbiosis.

A natural symbiotic relationship refers to the interdependent connections between different species in nature, where they interact and derive mutual benefits, remain unaffected, or experience harm. These relationships play a crucial role in maintaining the equilibrium and health of ecosystems.

In such relationships, each species involved contributes to the well-being or survival of the other, creating a balanced and harmonious ecological system.

Mutualism[649] is the most cooperative form of symbiosis, where both species benefit from the interaction. Commensalism[650] occurs when one species benefit while the other remains unaffected.

These relationships can occur at various levels within an ecosystem. For instance, mutualistic relationships can be found between pollinators (such as bees) and flowering plants, where the pollinators obtain nectar or pollen as food while aiding in the plant's reproduction through pollination. Another example is the mutualistic relationship between certain species of birds, known as cleaner birds, and larger animals like ungulates or mammals. The cleaner birds remove parasites and dead skin from the larger animals, benefiting from the food source, while the hosts enjoy parasite removal.

Commensalism can be observed in situations like epiphytic plants that grow on the branches of trees. The epiphytes obtain access to sunlight and nutrients from the air and rain, without significantly affecting the host tree. Similarly, certain species of birds may build nests in trees, using them as a habitat without causing harm or benefit to the tree.

These symbiotic relationships are essential for the stability and functioning of ecosystems. They contribute to biodiversity, nutrient cycling, and energy flow within natural systems. Disruptions or imbalances in these relationships can have far-reaching consequences, potentially leading to ecological instability and the decline of species.

## Colonisation and Parasitism

Colonisation on the other hand is Parasitism[651], which involves one species (the parasite) benefiting at the expense of the other species (the host). Māori hosted British settlers within the principles and practices of Manaakitanga. In pre-Treaty times they were the dominant population, and they were benevolent. They sought a relationship pf mutual benefit with non-Māori. But that was not the intention of the British. Parasitism involves one organism (the parasite) benefiting at the expense of another (the host). Colonisation can be described in terms of parasitism by drawing parallels to the relationship between a parasite and its host. In parasitism, a parasite relies on a host organism to provide it with resources and a habitat to thrive, often at the expense of the host's well-being.

In the early years of colonial settlement in Auckland [in particular] parasitism prevailed. Māori supported the settlers with food and shelter and security from other tribes. This empathy was then rewarded with genocide and land confiscation.

[649] https://www.britannica.com/science/mutualism-biology

[650] https://www.britannica.com/science/commensalism

[651] https://www.britannica.com/science/parasitism

In this instance the colonisation involved settlers (the colonisers) establishing control and dominance over Tainui and Ngati Whātua territory (the colonised), exploiting their resources, labour, and land for the benefit of the colonisers.

Key aspects of colonisation that can be compared to parasitism are:

**Resource exploitation:** Parasites feed off the resources of their host, depriving it of essential nutrients. In colonisation, the colonisers extract valuable resources from the colonised territory, such as minerals, crops, or labour, often leaving the indigenous population with limited access to or control over these resources. This resource exploitation can lead to economic and social imbalances between the colonisers and the colonised.

**Power imbalance**: Parasites exert control over their host, manipulating its behaviour and weakening its ability to resist. Similarly, in colonisation, the colonisers establish political, social, and economic control over the colonised population, imposing their laws, customs, and institutions. This power imbalance often results in the marginalization and suppression of the colonised people, who may experience loss of autonomy, cultural erosion, and diminished self-determination.

**Land and habitat disruption**: Parasites alter their host's environment to suit their needs, potentially causing harm to the host's well-being. Likewise, colonisers often disrupt the natural habitat and land use patterns of the colonised territory to facilitate their own interests. This can involve displacing indigenous populations, destroying traditional livelihoods, and exploiting the land for agricultural or industrial purposes, leading to ecological degradation and loss of cultural heritage.

**Long-term effects:** Parasitic relationships can have long-lasting consequences for both the parasite and the host. Similarly, the effects of colonisation can persist for generations, shaping the socio-economic, political, and cultural landscapes of both the colonisers and the colonised. These effects can include intergenerational trauma, inequality, and ongoing power dynamics even after formal decolonisation.

By drawing these parallels, it becomes evident that colonisation, like parasitism, involves a relationship where one group benefits at the expense of another, exploiting resources, power, and control. However, it's important to note that while parasitism is a natural phenomenon in certain ecological contexts, colonisation is a human construct driven by social, economic, and political factors – and greed.

## Indigenous Knowledge Systems

Conversely, indigenous cultures emphasise a harmonious relationship with nature, which involves sustainable practices and a deep understanding of ecosystems. They have developed knowledge systems and traditional ecological knowledge that have been passed down through generations, guiding their interactions with the Earth. This knowledge encompasses a profound understanding of the land, its resources, and the cycles of nature.

Māori understood and lived, by and within, a knowledge system that revered and protected the Mauri or the life forces within natural cycles. They knew that the key cycles of nature were fundamental processes and systems that sustain life on Earth. These cycles include the water cycle,

carbon cycle, nitrogen cycle, and nutrient cycle. Each cycle plays a crucial role in maintaining the balance and functioning of ecosystems.

**Water Cycle:** The water cycle involves the continuous movement of water between the Earth's surface, atmosphere, and back again. It includes processes such as evaporation, condensation, precipitation, and runoff. To protect and enhance the water cycle was critical to Māori and they recognised this energy and life force, the Atua that created it and the Taniwha and Kaitiaki that protected it.

- They conserved water by practicing responsible water use and minimising water waste.
- They protected water bodies from pollution by preventing contamination all forms of waste.
- They preserved and restored wetlands, which act as natural filters and regulate water flow.

**Carbon Cycle:** The carbon cycle is the process through which carbon dioxide (CO2) is exchanged between the atmosphere, plants, animals, and the Earth's various carbon sinks (e.g., oceans, forests). To protect and enhance the carbon cycle, Māori mana tiaki principles can:

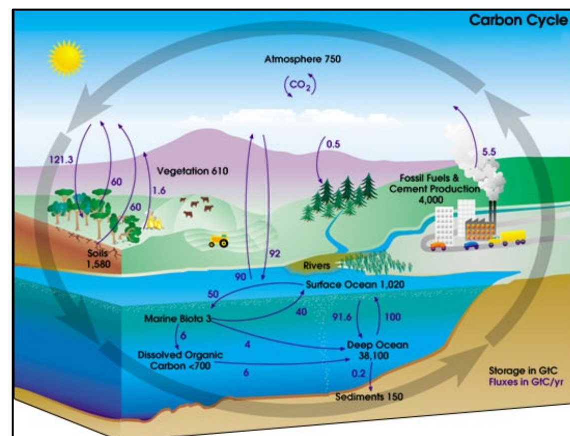


Figure 24. Carbon Cycle Chute diagram[652]

- Reduce greenhouse gas emissions by transitioning to renewable energy sources and promoting energy efficiency.
- Conserve and restore forests, as they act as carbon sinks, absorbing CO2 from the atmosphere.
- Practice sustainable agriculture and land management techniques to minimize soil erosion and enhance carbon sequestration.

**Nitrogen Cycle**: The nitrogen cycle involves the conversion and cycling of nitrogen between the atmosphere, soil, and living organisms. It is essential for the production of proteins and DNA. To protect and enhance the nitrogen cycle using te Ao Māori practices we can:

- Promote responsible use of fertilizers in agriculture to minimize nitrogen runoff into water bodies, which can cause eutrophication.
- Adopt practices like crop rotation, cover cropping, and agroforestry to enhance nitrogen fixation naturally.
- Improve wastewater treatment processes to minimize nitrogen pollution.

[652] https://commons.wikimedia.org/wiki/File:Carbon_cycle-cute_diagram.jpeg

**Nutrient Cycle**: The nutrient cycle involves the cycling of essential nutrients, such as phosphorus, potassium, and other micronutrients, through the soil, plants, and animals. To protect and enhance the nutrient cycle, we can:

- Adopt sustainable farming practices, including organic farming and integrated nutrient management, to reduce reliance on synthetic fertilizers and minimize nutrient runoff.
- Practice composting to recycle organic waste and return nutrients back to the soil.
- Implement proper waste management strategies to prevent nutrient leaching into water bodies.

In addition to these specific cycles, it's essential to protect and enhance overall biodiversity and ecosystems best done via indigenous principles and practices.  A kinship relationship to the natural living world. This can be achieved by preserving natural habitats, minimizing pollution, promoting sustainable resource management, and supporting conservation efforts.

Education and raising awareness about the importance of these cycles are also crucial. Encouraging individuals, communities, and governments to take action, make sustainable choices, and support policies that protect and enhance these cycles can lead to a more resilient and healthier natural environment.

## Connection

The connection to Mother Earth goes beyond a mere physical or utilitarian relationship. It encompasses a spiritual, cultural, and emotional bond that is rooted in indigenous identity. The land holds immense cultural significance for indigenous peoples, as it is intricately tied to their histories, traditions, ceremonies, and identity. The natural landscape, rivers, mountains, and other elements of the environment are often considered sacred and are integral to indigenous cosmologies and belief systems.

The connection between indigeneity and Mother Earth is not only about the present but also about the future. Many indigenous peoples advocate for the protection of their ancestral lands and the preservation of their cultural and ecological heritage. They recognise the importance of maintaining the integrity of ecosystems and biodiversity for the well-being of all life on Earth.

New Zealand has a very unique and dynamic culture which empowers connection to place.

The culture Māori people affects the language, the arts, and even the accents of all New Zealanders. Their place in the South Pacific, and their love of the outdoors, sport, and the arts make New Zealanders and their culture unique in the world. Māori are the indigenous

peoples of Aotearoa (New Zealand). Although New Zealand has adopted the UN Declaration on the Rights of Indigenous Peoples, the rights of the Māori population remain unfulfilled.[653]

Papatūānuku, the Earth Mother is the primary source of cultural identity for Māori in New Zealand. She provides unity and identity. So, indigeneity is inextricably tied to land and place. The term 'Indigenous' recognises this connection of being from and belonging to the land. Indigenous peoples' contributions are essential in designing and implementing solutions for ecosystems and land use models. Traditional knowledge and heritage contribute significantly to environmental assessments and sustainable ecosystem management. Indigenous knowledge derived from this unique connexion, cultural identification, and reverence can be applied to simplify compound environmental and land use complexities.

Indigenous knowledge systems manifest themselves through different dimensions. Among these are agriculture, medicine, security, botany, zoology, craft skills and linguistics, and sovereignty. Thus, performance of indigeneity can be regarded as a representation of culture and identity that takes place on more than one 'stage' at any given moment. That knowledge system permeates and intersects across a wide matrix of values, principles and practises.

Core values of integrity, cultural continuity, equity, reciprocity, respect, and responsibility underpin the practises and are engaged by indigenous people within society and the environment. This is a global commonality shared amongst all indigenous people. Those values are recognised as being critical as well as self-supporting, as per; “Each of these teachings must be used with the rest. You cannot have Wisdom without Love, Respect, Bravery, Honesty, Humility, and Truth”.[654]

Indigenous people have suffered in-dignification since colonisation began. New Zealand was the last country to be colonised by the British after a long line off land claims, assimilation, and genocide, stretching across a significant portion of the globe, from South Africa through the Pacific islands into Australia and into Southeast Asia.  History shows that people who were impacted by colonisation in those regions we're all treated in an inhumane manner, treated without dignity, and subjected to shame.

The hallmark of colonisation and the unfortunate history New Zealand indigenous people remains inequality and social and cultural deprivation. Barriers to Indigenous economic development include the legacy of colonialism, the failure to recognise Indigenous jurisdiction, inadequate infrastructure, administrative burdens, limited access to capital, and limited access to Govt. procurement opportunities.

Although it is not a catch-all word, many Indigenous peoples (internationally speaking as well) are increasingly preferring to indigeneity as a source or term of solidarity with other

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[653] Special Rapporteur releases report on situation of Māori people in New Zealand - IWGIA - International Work Group for Indigenous Affairs. https://www.iwgia.org/en/aotearoa-new-zealand/1178-special-rapporteur-releases-report-on-situation-of.html

[654] https://nhbp-nsn.gov/seven-grandfather-teachings/

Indigenous peoples, and common within those groups is the recognition of the significance of land as the foundation for unified identity.

## Indigeneity is a culture

Indigeneity is a culture – thus; performance of indigeneity can be regarded as a representation of multifaceted culture and identity that takes place on more than one 'stage' at any given moment.

Concepts of cultural belonging, self-determination, and sovereignty are strongly associated with identity. Having centred their identity within the land or mother earth an obligation of protection and enhancement becomes critical to intergenerational survival of indigeneity. The principles and the practises associated with this here in New Zealand is defined as Kaitiakitanga; "the exercise of guardianship by the tangata whenua in accordance with tikanga Māori in relation to natural and physical resources."[655] This also drives the underlying ethics of cultural stewardship.

Kaitiakitanga is also protecting and upholding the mana of Māori – the act of Kaitiakitanga is a direct articulation of their tino rangatiratanga, assuring the sustainability of taonga, including all natural resources, and protecting the delicate equilibrium of ecosystems.

Kaitiakitanga means the act of protecting, the responsibility of stewardship, and, from a Māori worldview - the authority entrusted to the tangata whenua to live in a way that safeguards that the whenua, wai, and all natural resources under Ranginui, and nurtured by Papatuanuku, remains in a state befitting for future generations.

Tuakana / teina is a concept from te Ao Māori and refers to the relationship between an older (tuakana) person and a younger (teina) person. Within teaching and learning contexts, this can take a variety of forms such as peer to peer, younger to older, older to younger, or able/expert to less able/expert.

It applies specifically to the teaching provided from within the natural living world including knowledge passed from the trees themselves, who are invariably far older than the people who are caring for them. This extends right through to those trees being pakeke or elders of the caregiver. This creates a unique cultural unity between people and natural ecosystems, and the flora and fauna that reside therein.

Within that unity Kotahitanga is a Mātauranga Māori concept that refers to unity, togetherness, solidarity, and collective action. Mātauranga Māori strategies can be used to develop Kotahitanga which foster and enhance relationships, respect, and cohesion.

Metrics defined to measure the well-being that occurs from science research engagement with Māori must consider and measure outcomes across four key Pou. Each one is vital to

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[655] Glossary of terms — Office of the Auditor-General New Zealand. https://oag.parliament.nz/2005/water/glossary.htm

the wellbeing and identity of Māori. Māori views on well-being are framed by a holistic approach that encompasses four key elements - wairua (spiritual), hinengaro (psychological) tinana (physical) and whānau (extended family).

Mauri is a key element of wellbeing and life, and it is inextricably linked to Wairua.

Māori believe the sneeze of life, the mauri, was breathed into the body that created humankind. The combination of the physical body and the mauri created the wairua - a living soul. While mauri is the intrinsic power that brings life, wairua allows us to operationalize that in the living world.

Thus - Wairuatanga encompasses the spiritual dimension of all existence; it speaks to the holistic wellbeing of an individual and the spiritual synergy of the collective with which that individual identifies.

## Whai ora and Whaiora

Whai ora and whaiora are both Māori terms, but they have different meanings and usage.

Whai ora: "Whai ora" [two words] can be translated as "pursuit of well-being" or "seeking wellness." It refers to the holistic approach of Māori health and well-being, encompassing physical, mental, spiritual, and social dimensions. Whai ora emphasises the interconnectedness of these aspects and promotes a balance between them to achieve overall wellness.

Whaiora: "Whaiora" is a single word that combines "whai" (to seek, pursue) and "ora" (life, health, vitality). It can be translated as "seeker of wellness" or "one who seeks well-being." "Whaiora" is often used as a term to describe individuals who are actively engaged in their journey towards well-being and are taking steps to improve their health and overall quality of life.

It's important to note that the meanings of these terms can vary depending on the context and the specific cultural interpretations. Both "whai ora" and "whaiora" reflect the Māori worldview and the significance of well-being within Māori culture.

All of these principles and practices are interwoven into the TAMPPS model. They are inherent values that translate to practice via indigeneity – connect to and protection of place.

To fully understand the difference between indigenous and non-indigenous perspectives on Te Taiao and associated privileges and obligations the follow is articulated.

## Fratricide and Personhood Relevance

The recognition of Te Urewera as a legal entity with rights and personhood has been influential in discussions and debates surrounding the rights of nature and environmental law internationally.

Tūhoe played a significant role in negotiating the legal recognition of Te Urewera, a mountainous region located in the North Island of New Zealand. The negotiation process aimed to address Tūhoe's longstanding grievances and to recognise the special relationship between Tūhoe and Te Urewera.

**Fratricide**
Fratricide refers to the act of killing one's own sibling or siblings. The term is derived from the Latin words "frater" (meaning "brother") and "cida" (meaning "killer" or "slayer"). It is a specific form of homicide that involves the intentional or unintentional killing of a brother or sister.

Fratricide can occur in various contexts, including personal disputes, family conflicts, and even within historical or mythological narratives.

While fratricide typically refers to the killing of a sibling, it can also be used more broadly to describe the killing of any close relative, such as a half-brother or half-sister. It's worth noting that fratricide is generally regarded as a grave and morally reprehensible act, as it involves taking the life of a family member, which violates the principles of love, care, and respect within a familial relationship.

Fratricide, as traditionally defined by indigenous people, directly relates to colonisation or the destruction of natural habitats considered by Māori people to be part of their kinship system or whakapapa. There are connections and implications to consider when examining the impact of colonisation on indigenous peoples and their relationship with the environment.

The destruction of natural habitats and the loss of biodiversity due to colonisation can be seen as a form of ecological disruption and harm, which can be metaphorically linked to the concept of fratricide. It represents a rupture in the interconnectedness and balance between humans, their kin in the natural world, and the ecosystems they inhabit.

Colonisation often involves the establishment of foreign powers or settlers in lands inhabited by indigenous communities. In many cases, the arrival of colonisers has led to the displacement, marginalisation, and oppression of indigenous peoples, disrupting their cultural practices, including their traditional connections to the natural world.

For many indigenous communities, the land, natural habitats, and the species within them are intricately tied to their cultural, spiritual, and physical well-being. Indigenous belief systems often include the understanding that they are interconnected with nature and share a familial relationship with the environment and its inhabitants. This perspective is often

reflected in their whakapapa or family tree, where humans, plants, animals, and other elements of nature are considered as relatives or kin.

The colonisation process, with its focus on resource extraction, industrialisation, and the imposition of foreign systems, has frequently resulted in the destruction of natural habitats and the loss of biodiversity. This destruction undermines the indigenous peoples' traditional ways of life and their ability to maintain their cultural and spiritual connections with the land and its species.

Recognising and addressing the impact of colonisation on indigenous peoples and their relationships with the environment is an essential step towards fostering understanding, promoting environmental justice, and supporting efforts to preserve both cultural diversity and ecological integrity.

## Te Urewera Act- Relevance

In 2014, Tūhoe and the New Zealand government reached a historic settlement agreement known as the Te Urewera Act (as referenced earlier in this paper). This legislation established Te Urewera as a legal entity with its own rights and personhood under New Zealand law. This unique legal status is often referred to as "legal personhood" or "legal personality."

Under the Te Urewera Act, Te Urewera was granted the same legal rights and protections as a person. This included the recognition of Te Urewera as a legal entity capable of owning itself, holding certain rights, and being represented in legal matters. The Act also outlined a governance framework for Te Urewera, which involved the establishment of a new entity called Te Urewera Board.

The Te Urewera Board, made up of both Tūhoe and government representatives, was given the responsibility to manage and govern Te Urewera. The board is responsible for developing a management plan, protecting the cultural and natural values of Te Urewera, and ensuring public access and enjoyment of the area.

The establishment of legal personhood for Te Urewera was a ground-breaking development in New Zealand's legal framework, recognising the intrinsic value of the natural environment and the importance of indigenous perspectives and relationships with the land. It reflected a shift towards recognising the rights and interests of indigenous peoples in the governance and management of natural resources.

It's important to note that the legal personhood status of Te Urewera is specific to New Zealand's domestic law and does not necessarily have direct implications for other jurisdictions or common law systems. However, common law systems can provide a legal framework within which personhood status is recognised and granted to certain entities beyond human beings.

**Common Law**
While the concept of personhood is not exclusive to common law systems and can also exist in civil law jurisdictions, common law systems have played a significant role in developing and shaping the recognition of personhood rights. Key elements relating to this are:

**Flexibility and adaptability**: Common law systems are known for their flexibility and ability to adapt to changing societal values and circumstances. This adaptability has allowed common law jurisdictions to evolve their legal frameworks to recognise personhood rights for entities other than humans. Through judicial decisions and legal precedents, common law courts have extended personhood status to corporations, organizations, natural features, and even non-human animals in some cases.

**Legal fictions and doctrines**: Common law systems have utilised legal fictions and doctrines to attribute legal personhood to entities that do not possess biological or human characteristics. For example, the concept of corporate personhood allows corporations to be recognised as legal persons with certain rights and responsibilities. This approach involves treating the corporation as a distinct legal entity separate from its shareholders.

**Case law and precedents [with the Te Urewera Act being the strongest precedent]**: Common law relies heavily on case law and precedents set by previous court decisions. As courts hear cases involving the recognition of personhood rights for various entities, their rulings and interpretations become part of the legal precedent. This iterative process allows for the gradual expansion of personhood status and the development of legal principles and criteria for granting such status.

**Balancing competing interests**: Common law systems often employ a balancing approach when considering the recognition of personhood status. Courts weigh the interests of the entity seeking personhood rights against potential conflicts with existing legal principles and societal norms. This balancing act involves considering the potential benefits and implications of extending personhood to non-human entities.

**UNDRIP**
In the indigenous rights space consideration would have to be given to the UNDRIP and other international agreements. When courts are tasked with weighing the interests of indigenous people seeking personhood rights for natural flora and fauna against rights protected under the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and

Celebrating New Zealand's endorsement of UNDRIP in 2010[656]

[656] https://commons.wikimedia.org/wiki/File:NZ_delegation_UN_Forum_on_Indigenous_Issues.jpg

potential conflicts with existing legal principles and societal norms, they need to consider several factors.

**Indigenous rights and self-determination**: Courts should recognise and prioritise the rights of indigenous peoples as enshrined in UNDRIP. This includes the right to self-determination, the right to maintain and develop their cultural, religious, and spiritual practices, and the right to control and protect their traditional lands, territories, and resources. These rights should be given significant weight when evaluating conflicts and determining personhood rights.

**Indigenous cultural and spiritual values**: Indigenous peoples often have deep cultural and spiritual connections with their natural environment, including flora and fauna. Courts should consider the significance of these relationships and recognise the unique perspectives and values that indigenous peoples hold towards the natural world. This may involve understanding indigenous cosmologies, concepts of kinship, and the interdependence between humans and the natural world.

**Sustainable resource management**: Indigenous peoples often have traditional knowledge and practices related to sustainable resource management and ecological conservation. Courts should consider the potential contributions of indigenous communities in maintaining ecological balance and preserving biodiversity. Recognition of personhood rights for natural flora and fauna may align with indigenous approaches to resource stewardship and support sustainable development.

**Human rights and environmental protections**: Courts should also balance the potential conflicts with existing legal principles and societal norms, including human rights and environmental protections. This involves considering the potential impacts of granting personhood rights to natural entities on other rights, such as property rights, economic interests, and public welfare. The court should ensure that the recognition of personhood rights for natural entities does not unduly infringe upon the rights of others.

**Dialogue and consultation**: Courts should encourage dialogue, consultation, and engagement with indigenous communities to understand their perspectives, values, and aspirations regarding personhood rights for natural flora and fauna. This includes giving weight to indigenous knowledge systems and customary laws in the decision-making process.

**Balancing and proportionality**: Courts need to strike a balance between competing interests and potential conflicts. This requires a proportionate assessment of the potential benefits, risks, and impacts of granting personhood rights to natural entities. The Court should consider whether alternative legal mechanisms or frameworks can adequately protect indigenous rights and the environment while addressing conflicts with existing legal principles.

It's important to note that the considerations mentioned above are general guidelines, and the specific approach taken by courts will depend on the jurisdiction, legal framework, and

factual context of each case. Courts should carefully analyse and evaluate the unique circumstances presented before them to make well-informed and just decisions.

Additional considerations regarding common Law and Personhood are:

**Judicial interpretation and evolution**: Common law systems rely on the interpretation and application of laws by judges, providing opportunities for the recognition of personhood rights through judicial reasoning. Over time, as societal values and perspectives evolve, judges may interpret existing laws or develop new legal principles to grant personhood status to entities that were not traditionally recognised as legal persons.

Here in Aotearoa, this reasoning can be supported by the Treaty of Waitangi principles and the findings of the Tribunal in the Wai 262 Claim.

## Wai 262 Claim Relevance.

The Wai 262 claim, also known as the "Flora and Fauna Claim" or the "Claim for the Protection of Māori Indigenous Traditional Knowledge," was a landmark indigenous rights case in New Zealand. While I can provide some general suggestions on how the recommendations of the Wai 262 claim could support the recognition of personhood rights through judicial reasoning in common law systems, it's important to note that the specific implementation and impact of the Wai 262 recommendations will depend on the actions taken by the New Zealand government and the legal developments in the country. The Wai 262 recommendations support the recognition of personhood rights:

**Recognition of indigenous knowledge and perspectives**: The Wai 262 report emphasised the importance of recognising and respecting indigenous knowledge, perspectives, and cultural values. This recognition can be influential in shaping judicial reasoning by highlighting the unique insights and understanding that indigenous peoples possess regarding the environment and the interconnectedness of all living beings. Judges can draw upon the recommendations of the Wai 262 report to consider indigenous knowledge as a legitimate basis for recognising personhood rights for natural entities.

I**ncorporation of customary law and governance**: The Wai 262 report recommended the incorporation of Māori customary law and governance principles into legal and policy frameworks. This could involve the acknowledgment and integration of indigenous legal principles, decision-making processes, and resource management practices. Judges can consider these recommendations to inform their interpretation of existing laws and their reasoning when determining personhood rights, particularly in cases involving indigenous knowledge systems and the protection of natural flora and fauna.

**Collaborative decision-making and consultation**: The Wai 262 report emphasised the importance of collaborative decision-making and meaningful consultation with indigenous communities. It recommended the establishment of mechanisms for engagement and negotiation between Māori and the Crown in matters related to indigenous knowledge,

resources, and intellectual property. Judges can encourage and support these collaborative processes, ensuring that indigenous perspectives are heard and considered in the recognition of personhood rights through judicial reasoning.
Integration of international standards: The Wai 262 report recognised the relevance of international standards and agreements, such as the United Nations Declaration on the

**Rights of Indigenous Peoples (UNDRIP)**: It recommended that New Zealand align its laws and policies with these international standards. Judges can reference and apply international human rights instruments, including UNDRIP, in their reasoning, recognising their significance in the recognition of personhood rights for indigenous peoples and natural entities.

**Evolving legal principles and precedents**: The Wai 262 report called for the development of new legal principles and precedents to address indigenous rights and interests. It recommended the establishment of specialist courts or tribunals to hear indigenous rights cases and the creation of legal doctrines specific to indigenous knowledge and traditional cultural expressions. Judges can draw upon these recommendations to contribute to the evolution of legal principles through their reasoning, setting new precedents that recognise and protect personhood rights in line with indigenous perspectives.

## National Legal Implications

The legal personhood status granted to Te Urewera under New Zealand's domestic law has specific implications within the country's legal framework. While it does not have direct implications for other jurisdictions, it can still offer valuable insights and inspiration for discussions and debates in the broader context of environmental and indigenous rights.

The legal rights of personhood refer to the recognition and granting of certain legal protections, entitlements, and responsibilities to an entity that is considered a legal person. While traditionally applied to human beings, the concept of legal personhood has been extended to various entities, such as corporations, organizations, or even natural features, in some jurisdictions.

The specific legal rights of personhood can vary depending on the jurisdiction and the entity involved. However, some common aspects of legal rights associated with personhood include:
Legal standing: Legal personhood grants an entity the ability to have legal standing, meaning it can be recognised as a party in legal proceedings. This includes the right to sue and be sued, to enter into contracts, and to bring legal actions to protect its interests.

**Ownership and property rights**: Legal personhood allows an entity to own property, assets, or intellectual property. This includes the right to acquire, possess, use, transfer, and protect these properties, as well as the right to seek legal remedies in case of infringement or violation.

**Liability and responsibility**: Legal personhood can entail the liability and responsibility of the entity for its actions and obligations. It may include the capacity to enter into legal agreements, assume debts, and be held accountable for legal violations or breaches.
Legal representation: In some cases, legal personhood involves the ability of the entity to be represented by individuals or designated representatives in legal matters. This allows the entity to have its interests advocated and protected in legal proceedings.

**Constitutional and human rights**: Depending on the jurisdiction and legal framework, legal personhood may entail the enjoyment of constitutional or human rights that are applicable to the entity. These rights can include protections against discrimination, freedom of speech, privacy rights, and other fundamental liberties.

It's important to note that the extent and nature of legal rights associated with personhood can vary significantly depending on the entity involved and the legal system in which it operates. Legal personhood is a complex and evolving concept, subject to interpretation, debate, and changes in laws and societal norms.

**Recognition of intrinsic value**: Granting legal personhood to Te Urewera recognises the inherent value of the natural environment and acknowledges that ecosystems have rights and interests that should be protected. This recognition challenges the anthropocentric view that nature exists solely for human exploitation and highlights the importance of considering the well-being of ecosystems in legal and decision-making processes.

Indigenous rights and reconciliation: The legal personhood status of Te Urewera reflects a shift towards recognising and respecting indigenous perspectives and relationships with the land. It acknowledges the unique cultural, spiritual, and historical connections that indigenous peoples often have with their ancestral territories. This recognition aligns with the principles of reconciliation and the need to address historical injustices faced by indigenous communities.

**Environmental governance and management**: The establishment of a governance framework through the Te Urewera Board signifies the importance of participatory and collaborative approaches to environmental management. It recognises the rights of local communities, including indigenous peoples, to be involved in decision-making processes that affect their traditional lands. This can serve as a model for inclusive and sustainable environmental governance practices.

Influence on international discussions: While the legal personhood status of Te Urewera is specific to New Zealand's domestic law, it has contributed to broader discussions on the rights of nature and indigenous rights at the international level. It offers a practical example of how legal frameworks can recognise and protect the rights of ecosystems and indigenous peoples, which can inspire and inform ongoing debates in other jurisdictions and international fora.

Legal personhood for natural entities is a relatively new concept, and its implications are still being explored and debated. While the specific legal framework of Te Urewera's personhood

may not directly apply to other jurisdictions, the underlying principles it represents can contribute to the development of innovative and inclusive approaches to environmental governance, indigenous rights, and the rights of nature in various contexts.

**Human Rights**
Human rights and personhood rights are interconnected concepts that share a common foundation in recognising the inherent dignity and worth of every individual. While personhood rights are a broader notion that can encompass legal recognition and protections for entities other than humans, human rights specifically pertain to the entitlements and protections afforded to human beings based on their inherent humanity.

**Recognition of inherent dignity**: Both human rights and personhood rights are grounded in the recognition of the inherent dignity of individuals. Human rights frameworks, such as the Universal Declaration of Human Rights (UDHR), emphasise the equal and inalienable rights of all human beings, irrespective of their race, ethnicity, gender, religion, or other characteristics. Personhood rights extend this recognition beyond humans, attributing certain rights and protections to other entities, such as animals, ecosystems, or artificial intelligences.

**Protection of fundamental freedoms**: Human rights encompass a wide range of fundamental freedoms and protections, including the rights to life, liberty, security, equality, and non-discrimination. These rights are meant to ensure that individuals can live with dignity, enjoy autonomy, express themselves, participate in society, and be free from undue harm or persecution. Personhood rights, in the context of non-human entities, may seek to protect certain interests, values, or ecological systems, recognising them as subjects deserving of rights or legal standing.

**Legal recognition and protections**: Human rights are typically enshrined in national and international legal frameworks, accompanied by legal obligations for states and institutions to uphold and protect these rights. Personhood rights, depending on the jurisdiction, may also involve legal recognition and protections. For example, granting legal personhood status to a natural entity may afford it certain rights, such as the right to own property, bring legal actions, or have its interests represented in court.

**Intersection with human dignity**: Both human rights and personhood rights are grounded in the concept of human dignity. The recognition and protection of rights are seen as essential to upholding and preserving the inherent worth and value of individuals and entities. By acknowledging the personhood or inherent value of non-human entities, personhood rights can challenge anthropocentric perspectives and promote a broader understanding of rights and responsibilities in relation to the environment and other living beings.

The specific rights and legal frameworks pertaining to personhood may vary across jurisdictions and contexts. Personhood rights for non-human entities are still evolving and subject to ongoing debate and exploration. However, the common foundation of dignity and

the recognition of rights provide a basis for understanding the connections between human rights and personhood rights.

## Correlation

The correlation between human rights based on inherent humanity and the whakapapa connection of Māori highlights the interconnectedness and interdependence of human beings and the environment. It expands the understanding of inherent humanity to include the recognition of the inherent value and rights of the natural world. This perspective emphasises the need for a more holistic approach to human rights that integrates environmental stewardship and recognises the reciprocal relationship between humans and nature.

Within te Ao Māori all things in the natural living world are rooted in recognising the holistic and interconnected nature of human beings and the environment. While human rights traditionally focus on the entitlements and protections afforded to human beings, the Māori worldview acknowledges that humans are intricately connected to the natural world through whakapapa, which encompasses genealogy, ancestry, and interconnectedness.
In Māori culture, whakapapa establishes a profound sense of relationship and kinship with the natural world, viewing all living entities as part of an extended family. This interconnectedness implies that the inherent humanity of Māori is not limited to human-to-human relationships but extends to their connections with the natural living world.

This perspective recognises the inherent humanity not only in human beings but also in other elements of creation. It acknowledges that humans are not separate from nature but an integral part of it, with responsibilities and obligations to care for and protect the natural world.

From this perspective, the correlation can be understood as follows:

Inherent humanity: Human rights are based on the inherent dignity, worth, and humanity of every individual. It recognises that all human beings possess fundamental rights and freedoms by virtue of being human. This principle is universal and applies to all people, irrespective of their cultural or ethnic background.

Responsibilities and obligations: The whakapapa connection Māori have to all things in the natural living world brings with it responsibilities and obligations to care for and protect the environment. This aligns with the recognition of inherent humanity, as it acknowledges that humans have a broader role beyond their own self-interests and that their rights are inseparable from their responsibilities towards the natural world.

## Whakapapa

When the legal precedent was set in the Tūhoe case, which gave personhood status to te Urewera, that status is by logic applied to all of the integrated and connected components that make up that living entity – its endemic flora and fauna. These are all kin to Māori.

"Whakapapa" by Te Rongo Kirkwood[657]

The legal precedent set in the Tūhoe case, granting personhood status to Te Urewera, establishes a recognition of the inherent rights and values of the entire living entity, including its endemic flora and fauna. This recognition is based on the understanding that Te Urewera is an interconnected and interdependent ecosystem where all components contribute to its overall health and well-being.

Te Urewera is not just a mountain range; it is an integrated and interconnected ecosystem that includes its endemic flora and fauna. Each component plays a vital role in maintaining the ecological balance and integrity of the entire system. Recognising the personhood status of Te Urewera implies acknowledging the significance of its endemic flora and fauna as integral parts of the living entity.

The endemic flora and fauna of Te Urewera are inseparable from the overall entity itself. They are not mere resources or objects but living beings that contribute to the functioning and identity of Te Urewera. Granting personhood status to Te Urewera logically extends to its interconnected components, recognising their inherent rights and values as part of the living entity.

The concept of whakapapa, central to Māori worldview, emphasises the interconnected relationships between all elements of creation. Māori have a deep cultural and spiritual connection to the natural world, viewing flora and fauna as kin within their whakapapa. Extending personhood status to the endemic flora and fauna of Te Urewera aligns with Māori perspectives on interconnectedness and acknowledges the inherent value and rights of these components.

Recognising personhood status for the entire living entity of Te Urewera, including its endemic flora and fauna, aligns with the objective of ensuring its ecological integrity and well-being. By granting legal recognition to the rights and values of these components, it becomes possible to protect and preserve their unique biodiversity and ecosystem services. This recognition acknowledges the importance of maintaining the health and balance of the entire ecosystem for present and future generations.

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[657] https://commons.wikimedia.org/wiki/File:Eunoia.webp

The application of personhood status to the endemic flora and fauna of Te Urewera or any other ecosystem must be seen as an extension of rights. Creating a legal precedent that recognises only the mountain as having personhood status, while simultaneously removing the protection afforded to the natural flora and fauna on the mountain, could create a negative legal fiction and fatal contradiction in law.

### Incomplete Recognition of Interconnectedness

By recognising personhood status solely for the mountain while disregarding the protection of its natural flora and fauna, there is a failure to acknowledge the inherent interconnectedness and interdependence of the ecosystem. Such a narrow interpretation could undermine the ecological integrity and functioning of the mountain ecosystem, leading to imbalanced and unsustainable outcomes.

Granting personhood status to the mountain while excluding its natural flora and fauna creates a contradiction within legal principles. Personhood status is typically attributed to entities that possess inherent rights and interests. If the natural flora and fauna, which are integral components of the mountain ecosystem, are deprived of legal protection, it contradicts the recognition of the inherent value and rights of the ecosystem as a whole.

Removing the protection afforded to natural flora and fauna on the mountain would endanger the biodiversity and ecological balance of the ecosystem. Biodiversity loss has far-reaching consequences, including the disruption of ecological processes, loss of habitat, and potential extinction of species. Neglecting the protection of flora and fauna would undermine efforts to preserve and sustain the natural heritage and biodiversity of the area.

Failing to protect the natural flora and fauna while recognising personhood status for the mountain could be inconsistent with ecological and indigenous perspectives that view all components of an ecosystem as interconnected and deserving of respect. Indigenous perspectives, including Māori perspectives in the Tūhoe case, often emphasise the interconnectedness and whakapapa relationships between humans, natural entities, and the land. Ignoring the protection of flora and fauna would disregard these cultural and ecological viewpoints.

Creating a legal precedent that includes personhood status for the mountain while excluding its natural flora and fauna would introduce legal uncertainty and potentially arbitrary decision-making. It would create confusion regarding the scope of personhood rights and the applicability of legal protections to different components of the ecosystem. This inconsistency could undermine the effectiveness and fairness of the legal framework.

To avoid such negative consequences and contradictions, it is crucial to consider the holistic nature of ecosystems and the interconnectedness of their components when recognising personhood status. Legal precedents and protections should be designed to encompass the entire ecosystem, including the natural flora, fauna, and other relevant elements, to ensure the integrity, well-being, and sustainability of the ecosystem as a whole.

## Entrenching colonial privilege

Creating a legal precedent that includes personhood status for the mountain while excluding its natural flora and fauna could potentially reinforce and entrench colonial and white privilege rule over indigenous people in several ways.

Indigenous peoples often have holistic and interconnected views of the natural world, recognising the inherent value and rights of all components of ecosystems, including flora and fauna. Excluding the natural flora and fauna from personhood status while granting it to the mountain would perpetuate a differential treatment of indigenous perspectives, disregarding their cultural and spiritual beliefs. This differential treatment can perpetuate colonial power dynamics that prioritize Western legal frameworks and perspectives over indigenous knowledge systems.

Indigenous peoples have long-standing relationships with their ancestral lands and natural resources, including the flora and fauna within them. By excluding the natural flora and fauna from personhood status, the legal system may marginalise and diminish the rights and interests of indigenous communities in their traditional territories. This marginalization reinforces the colonial legacy of prioritizing Western concepts of ownership and property rights over indigenous relationships and stewardship of the land.

Recognising personhood status for the mountain while excluding its natural flora and fauna can disrupt indigenous governance and decision-making processes. Indigenous communities often have well-established systems of governance and protocols for managing and protecting their ancestral lands, which encompass all components of the ecosystem. By excluding the natural flora and fauna from legal protections, the legal system undermines the authority and agency of indigenous communities in making decisions about the holistic well-being of their territories.

Indigenous communities hold extensive knowledge about the natural world, including the relationships, behaviours, and interdependencies of flora and fauna. By excluding the natural flora and fauna from personhood status, the legal system disregards the wisdom and knowledge systems that indigenous peoples possess. This perpetuates a power imbalance and fails to recognise and value indigenous contributions to ecological sustainability and biodiversity conservation.

The exclusion of natural flora and fauna from personhood status while granting it to the mountain reinforces existing power structures that have historically privileged colonial and white perspectives. It perpetuates a system where indigenous knowledge, rights, and interests are subordinated to dominant legal frameworks that prioritize individual property rights and economic considerations. This entrenches the colonial legacy of control and dispossession over indigenous lands and resources.

To address these concerns and move toward decolonisation and justice, it is crucial to recognise and respect indigenous worldviews, knowledge systems, and holistic relationships

with the natural world. This includes incorporating indigenous perspectives into legal frameworks, valuing and protecting indigenous rights and interests, and fostering genuine partnership and co-governance with indigenous communities in matters related to land, resources, and the environment.

## Policy and Regulatory Authorities

If a regulatory authority's environmental policies allow for the reduction or destruction of natural biodiversity, it could be perceived as complicit in fratricide which in the context of indigenous flora and fauna, refers to the harm, loss, or destruction of species that are considered kin or part of the extended family within the whakapapa (genealogy) of Māori.

If the regulatory authority's policies prioritize economic interests, development, or other non-sustainable practices over the protection and conservation of indigenous flora and fauna, it can be seen as disregarding the intrinsic value, cultural significance, and interconnectedness of these species. This perception of complicity arises from the understanding that the regulatory authority has a responsibility to safeguard and promote the well-being of the environment and the species within it.

The implications of such complicity would include:

Lack of sustainability and intergenerational justice: Allowing the reduction or destruction of natural biodiversity disregards the principles of sustainability and intergenerational justice. It compromises the ability of future generations to inherit a healthy and diverse natural environment and deprives them of the cultural, ecological, and economic benefits associated with biodiversity.

Loss of biodiversity: Allowing the reduction or destruction of natural biodiversity through environmental policies can lead to a loss of species, habitats, and ecosystems. This loss has ecological, cultural, and spiritual implications, as it disrupts the balance of ecosystems and diminishes the interconnected relationships between species.

Cultural harm: Indigenous communities, such as Māori, have deep cultural and spiritual connections to the natural world, including flora and fauna. The destruction of indigenous flora and fauna can result in cultural harm by eroding the cultural practices, knowledge systems, and identity associated with these species. It undermines the cultural heritage and well-being of indigenous communities.

Breach of treaty obligations: In New Zealand, the Treaty of Waitangi is a constitutional document that establishes a partnership between the Crown and Māori. The treaty recognises and protects Māori rights and interests, including those related to lands, waters, and natural resources. If regulatory authorities' policies undermine the conservation of indigenous flora and fauna, it can be seen as a breach of the treaty obligations to uphold the rights and well-being of Māori.

To address these concerns, regulatory authorities must adopt policies that prioritize the protection and conservation of indigenous flora and fauna. This includes engaging in meaningful consultation and collaboration with indigenous communities, incorporating indigenous knowledge and perspectives into decision-making processes, and aligning policies with principles of sustainability and cultural respect. By doing so, regulatory authorities can work towards avoiding complicity in fratricide and promote the well-being of indigenous flora and fauna.

## Infringement

In cases of infringement or violation of property rights or intellectual property rights by an entity that enjoys legal personhood, several legal remedies may be available. The specific remedies depend on the jurisdiction and the nature of the violation. Here are some common legal remedies that can be pursued:

A cease-and-desist order is a legal directive that requires the infringing entity to stop engaging in certain activities that violate the property or intellectual property rights. It is typically accompanied by the threat of legal consequences if the order is not followed.

An injunction is a court order that prohibits or compels a party to take or refrain from taking certain actions. In cases of infringement or violation, the affected entity can seek an injunction to stop the infringing entity from continuing the infringement or to compel them to cease specific actions that violate the property or intellectual property rights.

Damages refer to the monetary compensation awarded to the affected entity as a result of the infringement or violation. The damages may be compensatory, aiming to provide financial redress for the harm suffered, or they can be punitive in cases of wilful or malicious infringement.

In some cases, the affected entity can seek an account of profits, which requires the infringing entity to account for and hand over any profits derived from the infringement. This remedy aims to prevent unjust enrichment resulting from the violation of property or intellectual property rights.

In certain situations, the affected entity may seek a court order for specific performance, which requires the infringing entity to fulfil specific obligations or duties related to the property or intellectual property rights. This remedy is often sought when monetary compensation alone is deemed insufficient to address the harm caused.

### Relevance – the Nine Planetary Boundaries

Drawing upon the Wai 262 recommendations and incorporating indigenous perspectives in the evolution of legal principles can contribute to primary production systems that align with

the goal of bringing primary production back inside the currently breached planetary boundaries. Here are some potential ways this can occur:

Indigenous perspectives often prioritize sustainable land and resource management practices that respect ecological limits and promote long-term stewardship. By recognising and protecting indigenous personhood rights for natural entities, judges can contribute to legal principles that emphasise sustainable primary production systems. This can include promoting regenerative agriculture, responsible forestry practices, and sustainable fishing methods that prioritize ecosystem health and resilience.

Indigenous communities possess deep knowledge of local ecosystems, including traditional agricultural and land management practices that have proven to be sustainable over generations. Recognising and valuing this traditional ecological knowledge can lead to the incorporation of indigenous perspectives into primary production systems. Judges can play a role in recognising the importance of traditional knowledge and encouraging its integration into agricultural practices, thereby fostering more sustainable and resilient production systems.

Recognising personhood rights for natural entities can challenge the prevailing anthropocentric perspective that treats nature merely as property or commodity. By shifting the legal paradigm to recognise the inherent rights of natural entities, judges can contribute to a rights-based approach to natural resources. This can lead to legal principles that prioritize the health and well-being of ecosystems, setting the stage for primary production systems that operate within planetary boundaries and respect the rights of natural entities.

Indigenous communities often have strong community-based governance structures and decision-making processes that are rooted in local contexts and values. Recognising and respecting these governance systems can lead to primary production systems that prioritize community well-being, ecological sustainability, and the equitable distribution of resources. Judges can encourage and support community-based governance mechanisms through legal reasoning, allowing for more participatory and inclusive decision-making in primary production.

Indigenous perspectives often view food systems holistically, considering the interconnections between food production, culture, health, and the environment. By incorporating indigenous perspectives into legal principles, judges can contribute to a broader understanding of primary production that goes beyond economic considerations. This can lead to the development of legal frameworks that prioritize regenerative agriculture, local food sovereignty, and culturally appropriate and healthy food systems, which are essential for operating within planetary boundaries.

It is important to note that the evolution of legal principles alone may not be sufficient to transform primary production systems. Other factors such as policy development, education, and community engagement are also crucial. However, by recognising and incorporating indigenous perspectives through legal reasoning, judges can play a significant role in setting

precedents and promoting legal frameworks that facilitate primary production systems aligned with sustainability and the respect for planetary boundaries.

Such a challenge [and the introduction of these legal underpinnings] can be incorporated into a Te Ao Māori Primary Production System, which could ensure that primary production recentres inside the breached planetary boundaries, using indigenous knowledge and land use practices.

## Māori Economic Growth and Policy

It is a well-known fact that history repeats.

Aldous Huxley said, 'That men do not learn very much from the lessons of history is the most important of all the lessons that history has to teach'.

Whilst history seems to perpetually repeat all parts of the material universe are in constant motion and though some of the changes may appear to be cyclical, nothing ever exactly returns, so far as human experience extends, to precisely the same condition.[658]

Inquiry into the "golden years" of Māori economic development has shown how unprecedented indigenous entrepreneurial capability was used by so called 'savages' to out strip British agriculture competency within 25 years of first settler contact.

What followed [born of greed and jealousy] was genocide, land confiscation and cultural annihilation, but Māori were never beaten, they simply retreated until they could regroup – to advance again to reclaim their rights, identity and lands.

"A river cuts through rock, not because of its power, but because of its persistence."[659]

In the modern era, assessments of Māori development and growth over the last 15 years indicate that the same entrepreneurial skills and capability that was prevalent in the mid-1800s are again emerging within the modern economy. Māori are once again outpacing non-Māori businesses particularly in the agriculture and horticulture space in critical measures such as GDP growth.

Value added GDP by Māori enterprises grew 9.2 percent between 2013 and 2018, compared to 6 percent in non-Māori enterprises (BERL & Climate Change Commission, 2021).

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[658] Joseph Henry

[659] Jim Watkins

A report updating the size of the Māori asset base shows it increased from $36.9 billion in 2010 to $42.6 billion in 2013. Based on these figures, Māori producers contributed $11 billion (5.6%) to New Zealand's GDP or value-added production.

Māori own a significant proportion of assets in the primary sectors: 50% of the fishing quota, 40% of forestry, 30% in lamb production, 30% in sheep and beef production, 10% in dairy production and 10% in kiwifruit production. Products from these sectors typically face the highest tariffs in our export markets.

The Māori economy has grown from $16 billion to $70 billion in 20 years, and with a projected growth of 5 percent per annum, that's expected to reach $100 billion in assets by 2030.

## Rangatahi Leading the Renaissance

In 2014, three students from Northland College achieved recognition and success at the National Awards for The Lion Foundation Young Enterprise Scheme. The team, known as KTNT, was honoured with the prestigious He Kai Kei Aku Ringa Award for Rangatahi Entrepreneurs.

KTNT's winning product was a manuka honey nut brittle, crafted using locally sourced ingredients and highlighting the Hokianga region. Notably, the team obtained the honey for their product from Northland College's very own farm, showcasing their commitment to utilizing resources within their community. The three ākonga involved in KTNT are Kiani Pou, Nathan Tarawa and Te Awhina Kopa.

Young Enterprise CEO Terry Shubkin said KTNT were deserved winners. "Throughout their business year, KTNT maintained a strong focus on manaakitanga and whanaungatanga. Supporting their community was a critical element of their success and they have achieved their business and cultural goals." [660]

The Lion Foundation Young Enterprise Scheme is an experiential programme where secondary students set up a small business. More than 2,500 students from 200 school usually take part in the programme.

The award is jointly sponsored by the Federation of Māori Authorities (FOMA), Te Puni Kōkiri, Te Ohu Kaimoana, Careers NZ, NZ Māori Tourism and Te Tumu Paeroa.

For Māori to be able to implement the TAMPPS and for the drivers of this success model to be fully understood, a comprehensive evaluation on Māori economic growth is required.

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[660] https://www.nzherald.co.nz/northern-advocate/news/sweet-success-for-students/2B2M23ZQ3CE454ZFMW6NACIAHQ/

## Te Ōhanga Māori Report

Te Ōhanga Māori / The Māori Economy report by BERL was released in 2018. It provided a snapshot of the Māori economy to date. It showed that the Māori population and labour force have experienced significant growth and are expected to continue growing.

The report also showed that Māori businesses and employers are becoming increasingly prominent, with many skilled Māori individuals entering entrepreneurship and employing a significant number of people.

The report acknowledges the significance of te Ōhanga Māori encompassing activities and enterprises beyond Te Tiriti settlements and is increasingly becoming an engine of growth for the overall economy of Aotearoa.

Most importantly - Māori collectives and businesses are contributing to well-being through community engagement, whānau and family care, paid employment, unpaid voluntary work, and trust and business enterprise activities. Well-being and SECE uplift is the end goal of the TAMPPS model and the focus of Māori entrepreneurship in the modern day.

Māori are becoming a larger proportion of the future workforce and the Māori asset base is more diverse, moving away from its previous concentration in the primary sector. This diversification spreads risk and increases resilience.

However, access to capital and the ability to leverage existing assets remains a barrier for Māori. The unequal distribution of income and wealth also limits well-being for Māori, which is further exacerbated by factors such as falling home ownership and in-work poverty.

The report notes that improving labour force engagement through increased skills among Māori requires a multi-generational effort and that te Ōhanga Māori is no longer a separate and distinct segment but rather an interconnected component of the Aotearoa economy.

Māori participation, contribution, and connections relative to the economy can be observed in various areas, including skilled workers in businesses and institutions, productive Māori enterprises, beneficiaries of iwi trusts and incorporations, managers and trustees overseeing large enterprises, whānau representatives involved in financial and natural resource management, households purchasing goods and services, caregivers within households and whānau, businesses employing others, and contracted entities providing health, education, training, and social services specifically for Māori.

These various engagements and contributions demonstrate the integral role of Māori in multiple aspects of the Aotearoa economy, emphasising the interconnectedness of Te Ōhanga Māori with the broader economic landscape.

This section of the paper will look at the Māori economy and how it has diversified, especially in the post settlement phase, demonstrating the ability of Māori to thrive when having only a small portion of the resources available to them pre confiscation. It will look at how financial organisations such as Berl are viewing Māori [and how Māori view Berl and

other such research entities who do not engage at the flax roots of Māori society – relying at times on questionable quantitative data not qualitative,] and their contribution to the national economy and provide an insight as to how progressive their thinking is, and where it needs to be improved. New Zealand's current economic conditions will be discussed, including significant international impacts and future projections, how this affects Māori and how a fundamental change of mind set, when it comes to Māori, and how Māori can lead the way into a sustainable future in the face of changing environmental and financial climates.

## Facts and Figures

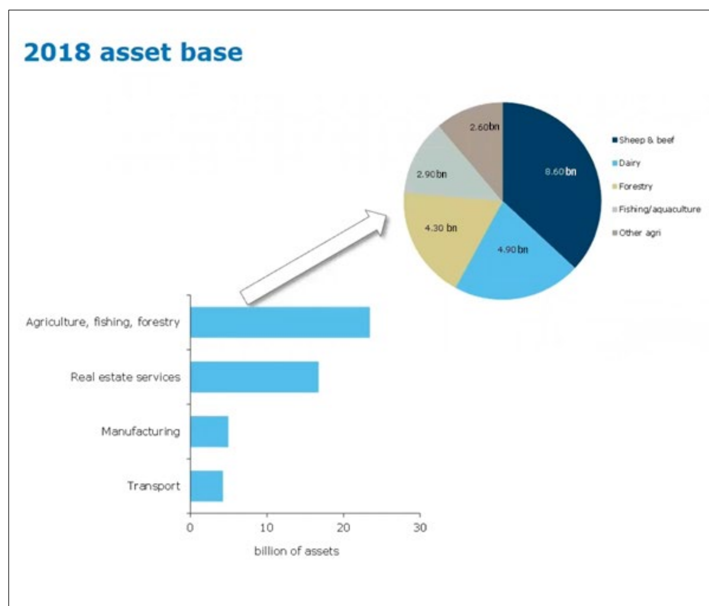


Figure 25: Source - Stats NZ, ANZ Research

The asset base of the Māori economy, according to the Te Ōhanga Māori 2018 BERL report, is approximately 10,000 Māori businesses with an estimated $39 billion worth of assets. An estimated $21 billion of assets are held by Trusts and Corporations and other Māori entities and $8.6 billion is held by self-employed businesses.

The assets are largely in the primary sector, where Agriculture, Forestry, Fisheries total $23.4 billion. This includes $8.6 billion in sheep and beef, $4.9 billion in dairy farming, $4.3 billion in forestry, $2.9 billion in fishing and aquaculture and $2.6 billion in other agriculture – i.e., horticulture. Māori have assets of $16.7 billion in real estate, including residential, industry and commercial. $4.9 billion of assets are in manufacturing, $4.2 billion in transport and $3.1 billion in construction.

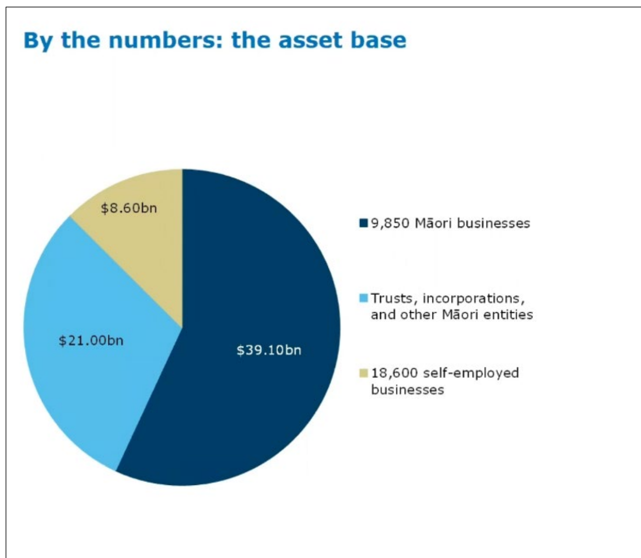


Figure 26: Source - Stats NZ, ANZ Research

The report also highlights a notable rise in the Māori workforce, with approximately 100,000 more Māori individuals employed compared to eight years ago.

Approximately 300,000 Māori individuals are currently part of the workforce in Aotearoa, with 74,000 of them employed in high-skill occupations.

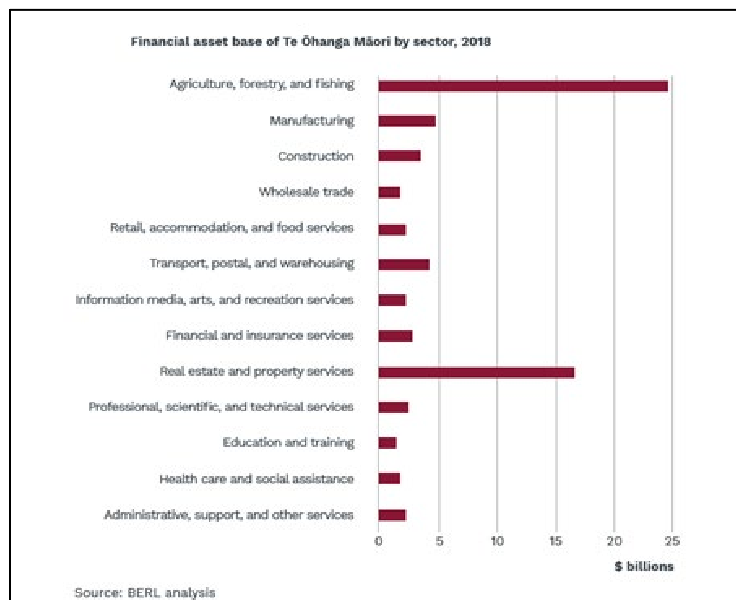


Figure 27 Financial asset base of Te Ōhanga Māori by sector, 2018

Māori trusts, incorporations, and entities hold nearly $21 billion of these assets, with a significant portion of $14 billion invested in natural resource-based sectors. Sheep and beef

farming remain the predominant Māori assets in the agricultural sector, although horticulture, including kiwifruit, is gaining importance.[661]

The report further emphasises that the majority of these assets are held by more than 9,900 Māori employers. In 2018, the combined assets of these businesses reached $39.1 billion, a significant increase from the $23.4 billion held by 6,800 Māori employers in 2013[662]. That is an astounding growth of 40% in 5 years.

On average, these businesses possess assets worth approximately $4 million and employ an average of 14 individuals, as outlined in BERL's report.

Hillmare Schulze, BERL chief economist, said Māori are key players in the more traditional primary sector areas of the economy and that any description of the Māori economy needed to go beyond Te Tiriti settlements. Highlighting the fact that Māori economic ability and strength had been in evidence long before the Raupatu settlements, she said, "Many businesses and trusts existed before the beginning of the settlement processes, producing goods and delivering services. Māori employers, entrepreneurs and employees are in every industry and every sector, generating wealth and wellbeing."[663]

Te Tiriti settlements have resulted in approximately $2.2 billion in cash and assets being transferred from the New Zealand government over the past 25 years. These settlements have aimed to address historical grievances and provide compensation to Māori communities.

## Māori Asset and Business Diversity

The BERL report showed that assets and businesses owned by Māori employers are diverse, spanning various sectors including primary industries, manufacturing, and services. The real estate and property services sector alone accounts for over $8.2 billion in assets, while agriculture, forestry, and fishing contribute another $7.5 billion. Within the latter category, forestry assets hold the largest share at $3 billion, followed by $1.6 billion in dairy farming.

Significant proportions of business assets owned by Māori employers can also be found in manufacturing, transport, finance, construction, professional services, trade, and accommodation sectors. These sectors tend to comprise smaller businesses with self-financed ownership, such as builders, plumbers, electricians, drivers, lawyers, accountants, business consultants, and hospitality establishments. While there are some larger enterprises in these sectors, many are smaller in scale compared to the overall average of a business.

[661] Te Ōhanga Māori 2018 p19

[662] Te Ōhanga Māori 2018 p20

[663] https://berl.co.nz/our-mahi/te-ohanga-Māori-2018

The Māori population in New Zealand is notably younger, with 57 percent of Māori individuals being under 30 years old. This demographic characteristic, combined with higher growth rates among Māori, has resulted in significant contrasts in population, workforce, and employment growth between 2013 and 2018[664].

A more recent assessment of the Māori economy was addressed by Māori Development Minister Willie Jackson in 2022.[665] Jackson said that the Māori economy is growing and Iwi, who have built up assets and wealth, have a major role to play in New Zealand's financial future.

According to Jackson, the Māori contribution to the overall New Zealand economy encompasses various sectors, including the primary sector, natural resources, enterprise, and tourism.

Statistics NZ released data on Māori businesses in their report titled "Tatauranga umanga Māori – Statistics on Māori businesses: 2021[666]." However, despite Māori enterprise accounting for only 8 percent of all businesses in Aotearoa on a population proportional basis, there is significant potential for growth in business incomes and opportunities for talent development.

The research conducted highlights the contribution of Māori to the broader economy and will inform future policy initiatives aimed at strengthening the Māori economy and supporting the well-being of whānau.

The number of Māori-owned businesses is stable, having grown 11% over the last ten years. Since 2016, the number of Māori-owned businesses has grown slightly faster at 2.2% per annum.

In contrast, the number of businesses owned by non-Māori increased by 18% during the same ten-year period. By using indicative margin, which measures the difference between revenue and expenses as an estimate of profitability, it was observed that Māori-owned businesses experienced a 200% increase in profitability over the ten-year period until 2020, while non-Māori-owned businesses saw their indicative margins rise by 75% during the same timeframe. This constitutes a 260% improvement over non-Māori businesses.

History is repeating – this was the same dynamic seen in the mid 1800's, although this is ignored or denied by many non-Māori which refers perhaps to Napoleon Bonaparte who said." History is a set of lies agreed upon."

On average, Māori-owned businesses had lower indicative margins compared to non-Māori-owned businesses. In 2020, 35% of all Māori-owned businesses had an annual net GST

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[664] Te Ōhanga Māori 2018 p21

[665] https://www.nzherald.co.nz/kahu/the-Māori-economy-is-booming-and-will-be-worth-100-billion-by-2030/L73MCPZMUFGRVEXWQTXL7XC62Q/

[666] https://www.stats.govt.nz/information-releases/tatauranga-umanga-Māori-statistics-on-Māori-businesses-2021-update/

exceeding $20,000, a significant increase from 19.0% in 2010. By comparison, 33.8% of non-Māori-owned businesses reported an annual net GST of $20,000 or more, up from 21.6% in 2010. These findings suggest that, in terms of proportion, a greater number of Māori-owned businesses transitioned into medium- to large-scale enterprises over the ten-year period compared to non-Māori-owned businesses.[667]

Māori-owned businesses that have active shareholders who are Wāhine Māori employ a higher percentage of Māori individuals compared to Māori-owned businesses without Wāhine Māori active shareholders. The employment provided by Māori-owned businesses holds significant importance as it represents a substantial portion of the Māori population. Being employed is not only crucial for an individual's sense of belonging within society but also contributes to the overall well-being and thriving of their whānau (family).

The regions within the country have a significant presence of employers who employ a large number of Māori individuals. These employers, known as significant employers of Māori, are businesses where at least 75% of the workforce consists of Māori employees. Across the country, there are 10,143 significant employers of Māori. Among these, approximately 3,189, or roughly a third, are Māori-owned businesses. In contrast, less than 3% of non-Māori-owned businesses serve as significant employers of Māori.[668]

During a span of 10 years, the combined indicative margin of all Māori-owned businesses has grown by nearly 100%, rising from $3.7 billion to $7.3 billion. In comparison, non-Māori-owned businesses saw a 75% increase in their total indicative margin over the same period.[669]

Individual post-settlement governance entities demonstrated average annual growth rates ranging from 4% to 15% during the same period (TDB Advisory, 2020).

If these growth rates continue, it is anticipated that there will be a significant rise in assets and contributions to the economy by 2050. This suggests a promising trajectory for the Māori economy, with the potential for substantial economic growth and increased prosperity in the coming decades.[670]

## Government investment in Māori Business

Willie Jackson announced the $1 billion Māori Budget package for 2022, which builds upon previous investments in areas such as education, employment, economic development, health, and the well-being of tamariki and whānau.

[667] Te Puni Kōkiri Te Matapaeroa 2020 Report p5

[668] Te Puni Kōkiri Te Matapaeroa 2020 Report p21

[669] Te Puni Kōkiri Te Matapaeroa 2020 Report p13

[670] Māori economy emissions profile – Climate Change Mitigation Impact on the Māori Economy //HŌNGONGOI 2021

However, Jackson expressed his concern about the pace at which the flow-on effects of these investments are occurring. To address this, the cross-agency Māori Economic Resilience Strategy, led by Te Puni Kōkiri, looks to ensure a coordinated government response to support Māori economic resilience across skills and workforce development, community resilience, infrastructure, and enterprise.

Furthermore, the Progressive Procurement initiative[671] aims to improve economic outcomes for Māori businesses and employees, as well as enhance accessibility for Māori businesses in the government procurement landscape. The initiative sets an initial target of awarding 5 percent of supply contracts to Māori businesses for mandated government agencies.

Preliminary results from July to December 2021 indicate that 5.7 percent of contracts, with an estimated value of $871 million, were awarded to Māori businesses. A business is defined by government as being a Māori business if its shareholding and leadership core is 50% or above. MBIE also have a Māori business register and businesses can apply for a Māori business number which is required if they are pursuing the progressive procurement avenue.

Jackson highlighted that the Government-to-Government Indigenous Collaboration Agreements[672][673] signed with Australia and Canada have a significant role in promoting and facilitating the social, economic, environmental and cultural, [SECE] progress of indigenous peoples. These agreements aim to achieve these advancements through the development of relationships, enhanced sharing of knowledge, and fostering stronger collaboration between the respective governments.

“Arrangements like these acknowledges a shared commitment to improving the lives and wellbeing of each countries indigenous peoples, who play a pivotal role in the prosperity and wellbeing of their communities, as well as the contribution they make to the national economy.”

## Potential Growth

Added to this, there is potential for Māori growth in other sectors.

“There is still significant opportunity for Māori growth in high value primary industries like horticulture and generally bringing non or lower productive lands into high value primary production,” Jackson said.

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[671] https://www.tpk.govt.nz/en/a-matou-whakaarotau/Māori-economic-resilience/progressive-procurement

[672] https://www.tpk.govt.nz/en/o-matou-mohiotanga/culture/indigenous-collaboration-arrangement

[673] https://www.beehive.govt.nz/release/new-arrangement-advance-indigenous-peoples-aotearoa-nz-and-canada

Domestically, sectors like construction and infrastructure will be important going forward and Jackson noted the Progressive Procurement policy[674] as being a key lever here.

The progressive procurement policy aims to promote supplier diversity and strategically utilize government spending to achieve broader economic and social goals. Agencies are required to disclose information on contracts granted to Māori businesses within each fiscal year starting from 1 July. Reports on procurement progress are expected twice a year, with due dates on 1 March and 1 October.

According to Jackson, crucial elements for the growth of the Māori economy include facilitating access to resources, support, and capital to enhance enterprise capability and capacity. Additionally, support is needed to adapt and foster resilience in the face of technological advancements and changes.

While acknowledging the positive aspects of the Māori economy, Jackson also expressed concern and caution due to the persistently challenging statistics that significantly impact many Māori, creating substantial barriers to progress.

“It seems ridiculous that we have a Māori economy worth $70 Billion and yet Māori still have far and away the worse statistics in health, education, housing and employment,” he said.

“While we are seeing improvements particularly in employment, our strategies of how we fund and who we fund need to be constantly reviewed. We have seen our best results come when we have funded Iwi and communities directly.”

## By Māori, For Māori

Jackson emphasised the effectiveness of the "By Māori for Māori" strategy, which has yielded tangible results, particularly evident during the COVID-19 crisis.

He highlighted the importance of learning from this strategy and acknowledged that, while the perspective of mana whenua is significant, it should not overshadow the rights of Urban Māori.

He stated that Iwi who have made prudent investments with their settlements should begin the process of distributing funds to support struggling members of their tribe. Jackson affirmed that the government would uphold its obligations to Mana Whenua, but these obligations should not supersede the Mātāwaka rights of those who are not affiliated with

[674] https://www.procurement.govt.nz/procurement/improving-your-procurement/frameworks-reporting-and-advice/reporting-on-progressive-procurement-policy/

the local iwi or hapū in cities like Auckland or Wellington but have resided there for generations.

These rights have been acknowledged by the Waitangi Tribunal and courts. Jackson highlighted that many of these Māori individuals have developed strong connections with their local Marae, community providers, kōhanga reo, Māori Wardens, Māori Council, or Urban Māori Authorities. These groups represent their everyday interests and concerns. "We must continue to support these groups and in fact increase our support if we really want to see major improvements for Māori economically."[675]

The three tribes that are setting the standards in terms of financial success are Ngāti Whātua Ōrakei based in Auckland, Tainui from Waikato, and Ngāi Tahu from the South Island.

Ngāti Whātua Ōrakei, who received an $18 million Treaty settlement, have demonstrated sound investment decisions and now boast a substantial bottom line of $1.6 billion. Through prudent management, their 2011 settlement money has translated into $1.3 billion in equity and a total asset value of $1.66 billion.

To calculate the growth rate of this investment, we can use the compound annual growth rate (CAGR) formula. The CAGR is a measure of the average annual growth rate over a specific period.

In this case, an initial investment of $18 million grows to $1.6 billion in 12 years. Thus:

CAGR = (Final Value / Initial Value) ^ (1 / Number of Years) - 1

Initial Value = $18 million Final Value = $1.6 billion = $1,600 million Number of Years = 12

CAGR = (1,600 / 18) ^ (1 / 12) - 1

Calculating this expression, we get:

CAGR = 1.2832 - 1

CAGR = 0.2832

Therefore, the growth rate of the investment is approximately 28.32% per year.

Alongside Tainui and Ngāi Tahu, they rank among the iwi with the largest financial reserves. Ngāi Tahu and Tainui were early recipients in the settlement process, each receiving $170 million in cash and assets.

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[675] https://www.nzherald.co.nz/kahu/the-Māori-economy-is-booming-and-will-be-worth-100-billion-by-2030/L73MCPZMUFGRVEXWQTXL7XC62Q/

Furthermore, they engineered a ratchet clause into their settlements. This clause entitles them to a percentage of all subsequent settlements once the Crown reached its fiscal cap of $1 billion to ensure that there is overall parity in the settlement process.

As a result, whenever a new iwi settlement surpasses the overall $1 billion mark, Tainui and Ngāi Tahu receive a significant bonus from the Crown. While this has led to some envy among other iwi, the robust balance sheets of all three tribes demonstrate the capability of Māori to effectively manage finances with fiscal responsibility.

Ngarimu Blair, the Deputy Chair of the Ngāti Whātua Ōrakei Trust Board, has said that all members of their iwi must trace their whakapapa back to Tuperiri who established mana over the central Auckland Isthmus and Upper Waitematā region in the mid-18th century.

The Ngāti Whātua Ōrakei tribe currently consists of approximately 7,000 members who can trace their lineage to Tuperiri.

"Our quantum for the immense losses endured by our people was $18m for central Auckland and Upper Waitematā. We effectively self-funded our wider settlement through negotiating the purchase of surplus Crown lands such as the former Railways land in downtown Auckland and defence housing land on the North Shore which we have significant bank debt over," Blair said.

Ngāti Whātua Ōrakei have total assets of $1.66 billion and a total equity of $1.36 billion. They also have the Right of First Refusal across wider Auckland, but it is also shared with other iwi across the rohe, even as far as Pārāwai / Thames.

Thus far the opportunities through right of first refusal have been few. Blair has noted that the Crown has been highly reticent to engage saying, "We have raised significant concerns with the Crown, who at times seem to avoid the RFR mechanism."[676]

The Ngāti Whātua Ōrakei future investment strategy focuses on their people and they look to ensure profits will future proof Ngāti Whātua Ōrakei Iwi for generations to come.

They have focused on the key issue of housing and have built over 200 houses in their village with more to be built. Other key areas include Cultural restoration programs, tribal investment and savings schemes and private health insurance for all whānau and support services.

Blair also noted the opportunism that the settlement process and the subsequent building of financial resources generates. "There are plenty of sharks ready to separate us from our hard earned pūtea. Knowing who is a shark and who is not is most of the battle" he said.

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[676] https://www.nzherald.co.nz/kahu/the-Māori-economy-is-booming-and-will-be-worth-100-billion-by-2030/L73MCPZMUFGRVEXWQTXL7XC62Q/

When facing a lack of skills or expertise, Ngāti Whātua Ōrakei encourage seeking assistance from others, recognising the high stakes involved. They believe that this approach not only allows for personal growth and development but also strengthens their internal capabilities. Furthermore, they acknowledge the importance of separating commercial governance from social governance, enabling their respective governing entities to focus on their areas of expertise. They emphasise the need for a clear strategy and plan.

Through hard-learned lessons, Ngāti Whātua Ōrakei have come to understand that nothing is certain without a well-defined strategy and plan. Their focus remained on investing heavily in their own tribal district and City, ensuring they stayed true to their path.

Acknowledging the range of adversities, disappointments, victories, and successes endured by their iwi and people, they highlighted the importance of preparing for the best but also being resilient and able to overcome the worst. By remaining humble, focused, and driven by what is best for their people, guided by tikanga, would lead them to a promising future.

Addressing the need to remain tuturu to the culture, Blair said, "Money provides the means to support our own and those most in need in our whānau. In days gone the currency was simply different. When we were almost landless and impoverished, we were cast aside by many, we were almost invisible in our own lands. This no longer is the case, and it will never ever occur again. However, our tikanga and kawa is the essence of who we are, and we are and must continue to be guided by this, at all times, not by money."[677]

Blair had a message for other Iwi going through the Raupatu settlement and post settlement process. "Do not let the settlement process corrupt your tikanga and do not spread your net far and wide into others territories in the hope of boosting your cash settlement and influence," Blair said. "That is a short-term unsustainable strategy as whakamā, reputation, relationships and whanaungatanga are the currency of Te Ao Māori. The fiscal cap set by the Crown is unjust and itself a breach of the Treaty. Tribes have been pressured into accepting pathetic cash settlements while only a couple continue to receive large relativity payments every time an iwi settles."

Tainui, who are approximately 80,000 strong, have also built up their asset base through good sound investments, though it took some time to get it right.

In 1995, they received a settlement of $170 million in cash and assets and now they have an estimated total assets of over $2 billion and a balance sheet of $1.7 billion.

Former Tainui Chair, Tukuroirangi Morgan said they have learned some very important and harsh lessons along their settlement journey, and they have always endeavoured to learn from their investment strategies, successful and otherwise.

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[677] https://www.nzherald.co.nz/kahu/the-Māori-economy-is-booming-and-will-be-worth-100-billion-by-2030/L73MCPZMUFGRVEXWQTXL7XC62Q/

Tom Roa, acknowledged that there were issues of financial responsibility that were lacking in the early days of post settlement saying, “A group of us took some responsibility, particularly for the finances, in the wake of what we saw as a mismanagement of the $170 million Raupatu settlement.”[678]

Morgan spoke of the underpinnings of Tainui culture saying, “Our values are under pinned by an unwavering dedication toward maintaining the principles of Kīngitanga.”[679] Morgan acknowledged the diverse skill sets of Tainui people and the value of input and feedback from Iwi.

Tainui have put in place a long-term cultural, social and economic framework called Whakatupuranga 2050.[680] Whakatupuranga 2050 is a comprehensive strategic plan spanning 50 years, aiming to foster the social, cultural, and economic progress of Waikato-Tainui. The plan centres around enhancing the capabilities of iwi, hapū, and marae and informs the shorter 5-year development plan as well as their environmental, Mātauranga Māori and Reo strategies. Morgan said that Waikato-Tainui expectations are that “all of our projects will prioritise our people including our tribal businesses – It is an integral part of how we conduct business.”

In the South Island, Ngai Tahu who are also approximately 80,000 in number, is noted as being the third Iwi to have made good financial decisions with their pūtea in the post settlement process. Ngai Tahu have an estimated $2.28 billion asset base and a balance sheet of $1.9 billion.[681]

In 1998, Ngāi Tahu received a settlement of $170 million made up of cash and assets and, as of last year Ngāi Tahu Holdings declared a net profit of $233m for that financial year.

Ngāi Tahu has allocated $742 million towards the development of the tribe in the period following the settlement. This substantial investment encompasses various initiatives, such as funding for tertiary education and scholarships, efforts to revitalize the Māori language, environmental projects, marae development, and numerous other programs aimed at enhancing the overall well-being of the Iwi.

Te Rūnanga o Ngāi Tahu Kaiwhakahaere Lisa Tumahai says Iwi were pleased with the outcome.

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[678678] Tom Roa: Understanding mana and our place in the universe Dale Husband (2017)

[679] https://www.nzherald.co.nz/kahu/the-Māori-economy-is-booming-and-will-be-worth-100-billion-by-2030/L73MCPZMUFGRVEXWQTXL7XC62Q/

[680] https://waikatotainui.com/about-us/whakatupuranga-2050/

[681] https://www.nzherald.co.nz/business/ten-post-settlement-iwi-have-81b-assets-new-report/TA6KCJMRQVGY7CQ6S4RZVPQNMQ/

“With our strong financial result, we can reintroduce several of our popular programmes that were paused in 2020 due to economic uncertainties, such as Te Pōkai Ao which introduces rangatahi to future focused opportunities in the digital world, and Manawa Tītī and Manawa Mui which support emerging tribal leaders”.[682]

“We know the increased cost of living, Covid lockdowns, and several significant flooding events have all put pressure on whānau budgets, so I’m pleased we could support 2,885 whānau with Pūtea Manaaki grants and deliver 5,000 Covid care packs to help māuiui whānau recover,”

“While Ngāi Tahu Holdings has distributed $58.6m of its net profit to Te Rūnanga o Ngāi Tahu in FY22, this will rise to $75.4m next year. The annual distribution funds a variety of mahi to support more than 76,000 Ngāi Tahu whānau.

“We know the increased cost of living, Covid lockdowns, and several significant flooding events have all put pressure on whānau budgets, so I’m pleased we could support 2,885 whānau with Pūtea Manaaki grants and deliver 5,000 Covid care packs to help māuiui whānau recover,” says Lisa Tumahai.

Ngāi Tahu Holdings Chair Mike Pohio says an overarching long-term focus has allowed the business units to navigate the current economic challenges and produce an outstanding result for whānau.

“Our focus remains on growing the pūtea and delivering a dividend for our whānau in the long-term. We are confident that despite the uncertainty in the wider market, Ngāi Tahu Holdings will remain in a resilient position as we move forward.”[683]

[682] https://www.scoop.co.nz/stories/BU2211/S00056/ngai-tahu-to-reintroduce-popular-programmes-after-forced-hiatus.htm

[683] https://www.scoop.co.nz/stories/BU2211/S00056/ngai-tahu-to-reintroduce-popular-programmes-after-forced-hiatus.htm

## The Tauiwi perspective on Māori economics

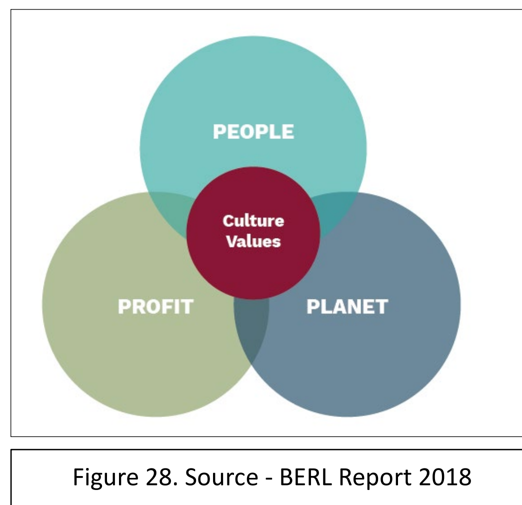



Figure 28. Source - BERL Report 2018

The Berl report contains a section entitled People, Planet and Profit and provided a diagram (see above) where cultural values are the central point through which the three 'Ps' intersect. The text below is a summation of the information provided by the report that explains the diagram above.

The focus is on understanding the interconnection between culture, people, planet, and profit in delivering overall well-being. It emphasises that culture is central and serves as the foundation for people, planet, and profit to thrive.

People are viewed not just as individuals but also as members of a community, recognising the importance of collective value. This perspective acknowledges kotahitanga, manaakitanga, and whanaungatanga, highlighting the significance of inclusion, belonging, and opportunity. Whakapapa, which refers to both individual and collective ancestry, plays a vital role in establishing these values.

The planet dimension in this diagram encompasses all activities that involve the use and impact of natural resources, such as land, water, and minerals. This includes businesses and enterprises engaged in agriculture, forestry, fishing, and energy generation. It emphasises not only the utilisation of these resources but also their passive and active enjoyment, as well as their restoration and active management.

Māori contributions to the natural environment are multifaceted. Through iwi, collectives, and businesses, Māori support the mauri of land, ecosystems, water, air, waterways, and oceans, providing crucial support for natural capital and enabling the well-being of future generations.

The profit dimension in this diagram encompasses all activities that involve the creation, management, improvement, and utilisation of non-natural resources. These resources include equipment, buildings, transport, and communications infrastructure, which are used to produce goods and deliver services.

When managed and utilised appropriately, profit can undoubtedly contribute to improved well-being outcomes. It enables the allocation of resources towards initiatives that enhance well-being, support economic growth, and foster innovation. Profit, in this sense, plays a vital role in driving economic development and facilitating the delivery of improved well-being for individuals and communities.

It is crucial to recognise the interdependence and interconnectedness of the people, planet, and profit dimensions. No single dimension is more important than the others. The maintenance, utilisation, and enhancement of both natural and non-natural resources contribute to the flow of well-being outcomes both now and in the future.

Māori play a critical role across all three dimensions of people, planet, and profit. This further highlights the importance of considering Te Ōhanga Māori within a comprehensive framework that encompasses stocks of resources and taonga and delivers flows of activity, production, incomes, expenditures, and well-being outcomes.

This diagram and the resulting information gained from the explanation thereof provides an insight into the current thinking of the government and non-Māori financial institutions around the value and nature of Māori contribution to the national economy, their observations of the Māori world view, the motivations of Māori and how Māori engage with their environments and people to produce economic outcomes. To an extent it provides decent data, given that it was commissioned by the Reserve Bank and produced by Berl. It does not fully articulate the interconnectivity of Māori with Te Ao Marama, the world of light and all that reside within it and how this informs Māori economic decision making.

As has been articulated elsewhere in this paper, Māori, through whakapapa, are connected to the natural living world. This means that Māori are related, by blood, to the insects, birds, fish, trees, mountains, rivers, and sea and so on.

This informs everything that Māori do when working with the whenua, the ngahere, the awa and the moana. The first consideration given must be to the needs of the environment you work in and _then_ how the tangata may benefit as a result. If the prospective business venture does not align with the best interests of the whenua, say for example Te Urewera, then it should either be reconfigured or abandoned.

Whakapapa informs the use rights of whānau to which area of whenua they can cultivate, which mussel rock they can harvest, where they can build houses and so on. Tikanga and kawa guide Māori on how they do business, especially with other Māori.

Tauutuutu and Manaakitanga are prime examples of this.

Tauutuutu is an indigenous way of thinking that creates a mana-enhancing environment. It does this through the concept of reciprocity. An example of this can be found at hui on a marae. To maintain the mana of the manuhiri and themselves, the tangata whenua must provide the best hospitality, ensuring that the manuhiri are well fed and comfortable, that they feel welcomed and respected and leave the marae safely when they travel home.

The ability to provide the kai, to house the manuhiri, to engage in korero and draw from whakapapa, creating common links between the local Māori and their manuhiri and, in so doing, facilitate mutually beneficial outcomes for both, establishes and enhances the mana of the tangata whenua. The mana of the manuhiri is acknowledged and enhanced by receiving those things. This is an aspect of manaakitanga.

When it comes time for the roles to be reversed and the previous visitors are now the hosts, they must provide equal if not better hospitality if they are to maintain the mana of both. This is an aspect of Tauutuutu.

The relevance of this in Māori economics is obvious. Tauutuutu advocates for Māori communities and businesses to consistently and increasingly invest their time and resources into maintaining the mana of their environments and resources and the people they deal with.

Respecting the whenua, awa and moana and enhancing their wellbeing in turn creates an improved ability of them to provide for the people and vice versa. This, in turn, fosters individual innovation and entrepreneurship as Māori search for opportunities to enhance the abilities of themselves to generate benefit for the resources they have, their whānau and themselves.

A paper on the benefits of a national Tauutuutu economic model was published in 2021 for the Our Land and Water National Science challenge.[684] The paper does a creditable job of explaining the Tauutuutu Economy model and the benefits not only to Māori, the environment but also the benefits non-Māori could derive if they adopted the values and the ethos.

It does, however, need to extend its thinking, and go back to the base principles of indigeneity, acknowledging the whakapapa relationship of tangata to the Atua, their children and the privilege and responsibility that brings.

The Atua have gifted the people resources and knowledge to be able to survive and thrive socially, culturally, environmentally and economically (SECE). Papatūānuku has continued to give in spite of the abuses she has suffered. Tangaroa continues to weather the effects of industrialisation and pollution, absorbing carbon dioxide emissions and providing water and sustenance, Tāne Mahuta continues to try and cloak Papatūānuku in the korowai of forests to protect against soil degradation and help his mother breath, to name but a few examples.

It is incumbent upon Māori to exercise mana tiaki and be in service to Te Ao Marama and all the environments within. This engages their indigenous principles and practices, revitalising and utilising their traditional knowledge which benefits the environment and the people. This in turn provides opportunities to develop SECE business models based on these

[684] Reid, J., Rout, M., Whitehead, J., & Katene, T. P. (2021). Tauutuutu: White paper executive summary. Our Land and Water National Science Challenge. https:// ourlandandwater.nz/wp-content/ uploads/2021/08/Tauutuutu_WhitePaper_ ExecutiveSummary.pdf

principles, creating products and services that provide to a growing national and international market demand.

## Delivery of wellbeing

In the face of persistent income and wealth disparities, Māori entities are actively investing in people and communities. They employ Māori workers and allocate significant funds towards various forms of support. These include substantial grants for secondary and tertiary education, as well as grants specifically designed for kaumātua to cover healthcare and tangihanga expenses.

Each year, thousands of kilograms of seafood from fisheries quota are supplied for tangihanga purposes. Furthermore, tonnes of firewood are delivered to kaumātua, and fresh vegetable parcels are distributed to whānau through community gardens. In addition to these direct forms of assistance, Māori entities play a crucial role in delivering health, education, social, and environmental services to communities. Through these efforts, they strive to enhance the well-being and overall outcomes not only for Māori but also for non-Māori whānau.[685]

Māori entities contribute to various aspects of community well-being through their diverse range of services and initiatives. They play an active role in providing health and social services, including care for new mothers and infants, mental health support, addiction services, and suicide prevention programs. They also serve as Whānau Ora providers, offering navigation support for families.

In the field of education, Māori entities contribute through early childhood centres, language immersion schools, and tertiary education programs focusing on indigenous knowledge, arts, health, and business. They also support financial mentoring, driver courses, and road safety initiatives.

Māori entities are actively involved in promoting Māori media, arts, language, and cultural programs, both locally and internationally. They emphasise the development, promotion, and protection of Mātauranga Māori and provide scholarships across various educational levels.

In terms of community well-being, they address digital equity, housing, and provide social housing options. Māori entities prioritise environmental stewardship by engaging in activities such as native vegetation regeneration, waterway management, climate change strategies, and advocating for legal protections for land and water bodies, including the recognition of legal personhood for certain natural entities like the Whanganui River and Te Urewera.

[685] Te Ōhanga Māori 2018

### Low-emissions economy

Climate change is having a significant impact on the primary sector throughout Aotearoa (New Zealand), and this impact is expected to continue in the future. In order to promote climate resilience, it will be crucial to involve Māori in the development of adaptation plans for the primary sector. Māori involvement can contribute to the provision of food security, which is an important aspect of climate resilience. Additionally, supporting Māori in developing their own mitigation projects is essential. The Productivity Commission's low-emissions economy report in 2018 highlighted the significant role Māori play in New Zealand's transition to a low-emissions economy through their land use decisions. Reducing greenhouse gas emissions from land use not only helps protect land, forests, and waterways but also contributes to achieving climate goals.

The utilisation of taonga resources for primary sector production has facilitated the growth of the Māori economy.

Land and water use have enabled revenue generation, employment opportunities, expansion into related manufacturing, and skills development through training. This has created economic opportunities, fostered economic independence, and supported self-determination among Māori.

The positive impacts extend beyond financial capital, also enhancing human and social capital, as well as natural capital, depending on the practices employed.

There are still untapped opportunities that can be gained, such as horticulture, direct farm ownership instead of leasing, and fisheries processing. Encouraging Māori participation in climate change adaptation and mitigation efforts is vital to further harness these opportunities and promote sustainable development.[686]

[686] Te Ōhanga Māori 2018 p39

## Current state of the economy

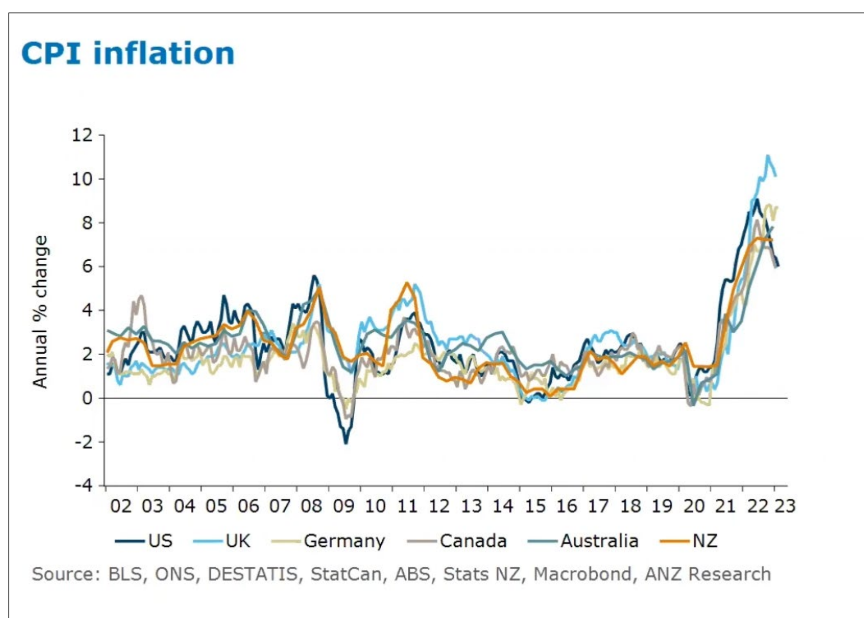



Figure 29

Māori suffer disproportionately due to inflation, a problem shared by all in the New Zealand but not a problem halved. New Zealand's economy is experiencing a sustained period of inflation that has sat at over 7% for four quarters. As the CPI figure shows, the elevated level starting in 2021 is plateauing and will stay at the level until something is done.[687]

When Covid hit, it was reasonable to assume there would be a very long-lasting shock to demand, spending, confidence, investment and employment and that we were at risk of depression and that house prices were going to fall hard, as they have now.

Policymakers expected a huge hole in demand and took steps to remedy that. Monetary policymakers and fiscal policymakers made extreme moves to counter the anticipated extreme event. Interest rates were cut, restrictions on higher risk mortgage lending were suspended, the money was printed, there were 'make work' schemes, and the wage subsidy which was very important but also very expensive.

[687] Kia Puāwai Te Pakihi: Te Ōhanga Māori – The Māori Economy, March 2023 https://www.youtube.com/watch?v=l0cBz8AU378

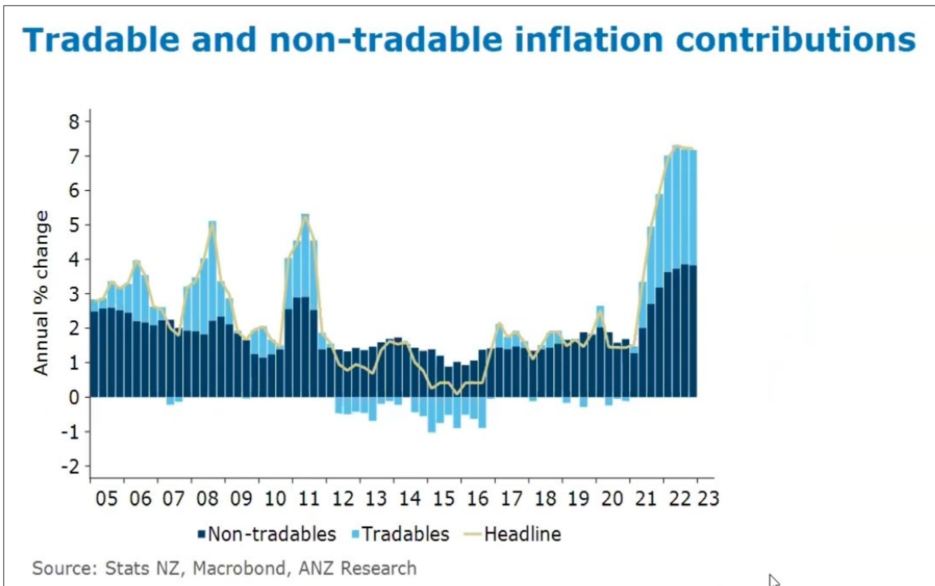



Figure 30

This worked, but it worked too well. The domestic inflation, which reflects whether an economy is running hot and cold, accelerated in 2020/21 at a rate that had never been seen before, aside from the bump in 2010 representing the increase in GST from 12.5 to 15% and tax cuts. As per the above figure.

The imported inflation / goods that could be imported also accelerated creating a perfect environment in which inflation could thrive.

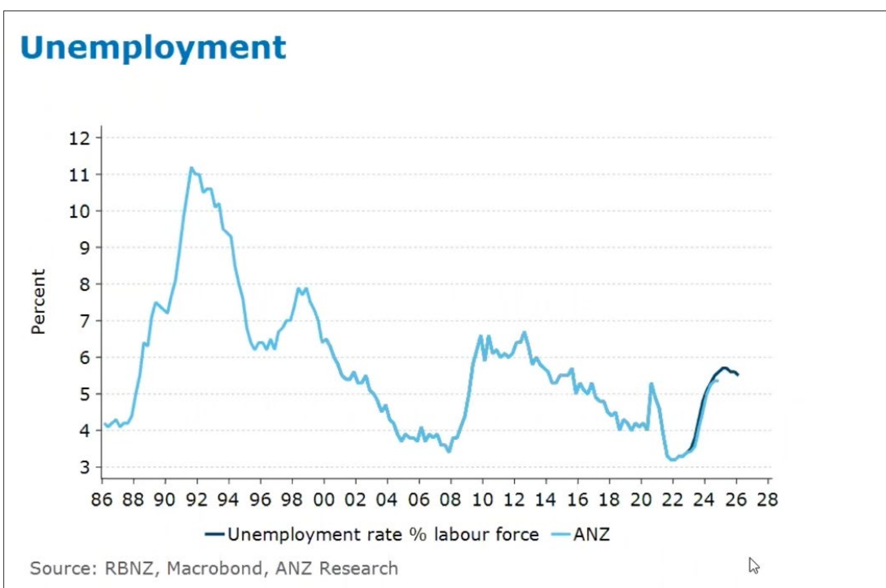



Figure 31

The Reserve Bank is forecasting unemployment to rise almost to the same level as a lift and shift in 2008. Unemployment has always hit Māori harder than non-Māori.

Currently on the ground it doesn't feel like it did when the global financial crisis hit, there is less tension amongst the average person, but it did take a while for the knowledge of the GFC to filter through from the people who was watching the economic trending intensely, to the person on the street.

Media attention is not at the same level as then and currently the general sense of panic, evident then is not currently being felt. As such the unemployment rate is forecast to rise, but not to the same heights as the last recession. To give perspective, the early 90s recession unemployment rate hit 11%. Current forecasting has it at 5.5%. However, a 5 to 7% unemployment rate overall can equate to 35% unemployment for Māori in rural communities.

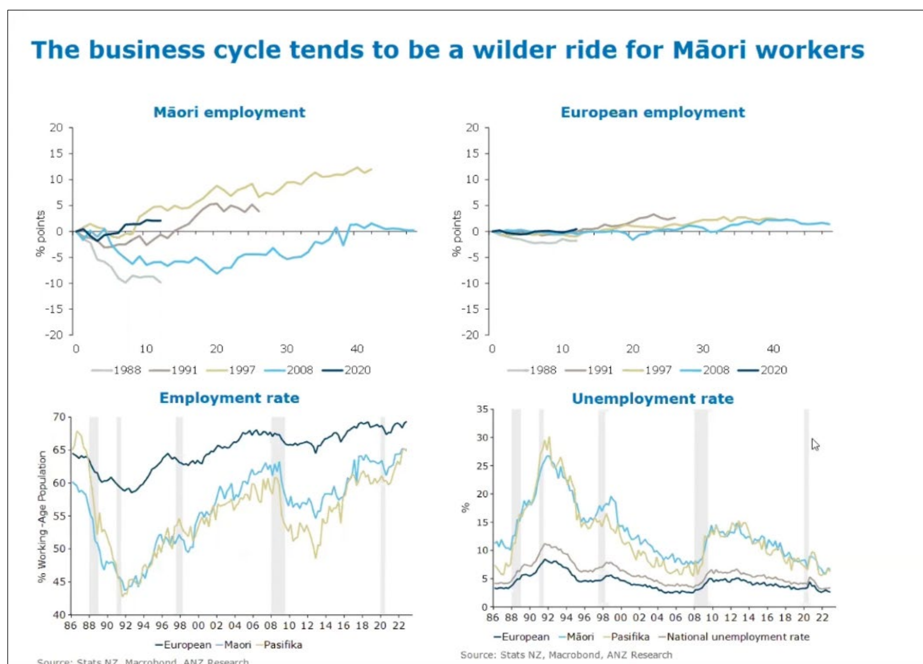



Figure 32

The business cycle tends to be a much wilder ride for Māori workers. The Māori employment graph shows Māori employment through the various recessions. In 2020, Māori employment drops and then recovers after a long pause – due to the health-related nature of that pause.

The Māori employment recovered very quickly due to heavy Māori representation in the goods sector, which also rebounded quickly.

When compared to the European employment graph, it can be seen that pākehā do not go through the same extremes as Māori.

In 1992 the Māori unemployment rate hit 27% and then it went well under 10% before the GFC hit. Currently it is quite low as expected given how tight the labour market is.

However, Māori unemployment is still significantly higher than the national unemployment rate.

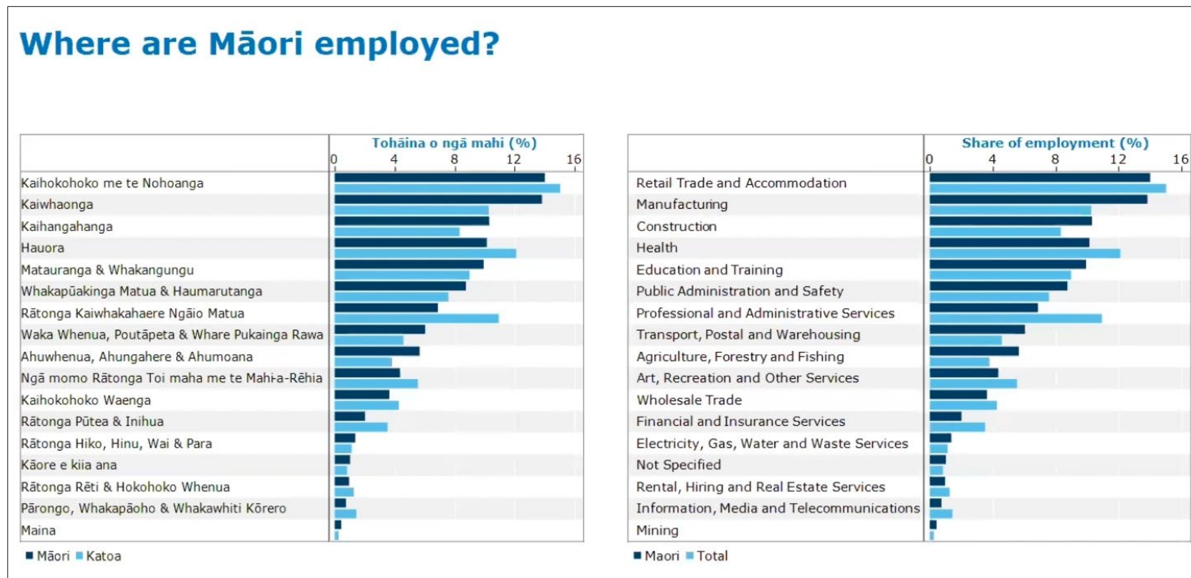



Figure 33

Broadly the pattern of Māori employment tracks the overall economy but with some differences.

Māori workers are over-represented in the goods sectors, manufacturing, construction, and agriculture which meant positive outcomes for Māori wages in 2020/21.

Māori are less represented in the services sector, in particular the professional administrative services.

The economy has had a boom in goods and now as people are able to go on holidays again etc, we are seeing spending switched back towards services.

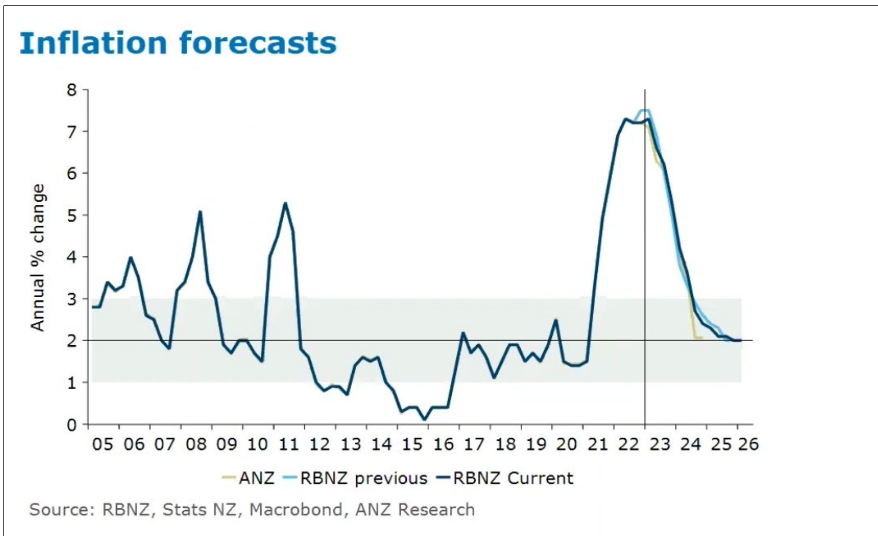



Figure 34

The initial inflation forecast was for inflation to come back as neatly and tightly as it went up.

The forecast is internally consistent with the impact of interest rates, on fixed housing, construction, retail and employment and then feedback loops should be disinflationary and there are early signs that it's working.

Given the nature of the risks around inflation however, there is a risk on the downside that we could have a harder landing than expected. Either with seeing what the damage the delays have done to the economy and /or elements like the uncertainty in the US banking sector affecting the globe, there could be a harder landing than expected which would also affect New Zealand.

So, with these impacts factored in, it appears likely that inflation will not be neatly going back to 2%. It might get halfway and then get stuck.

## Costs of living

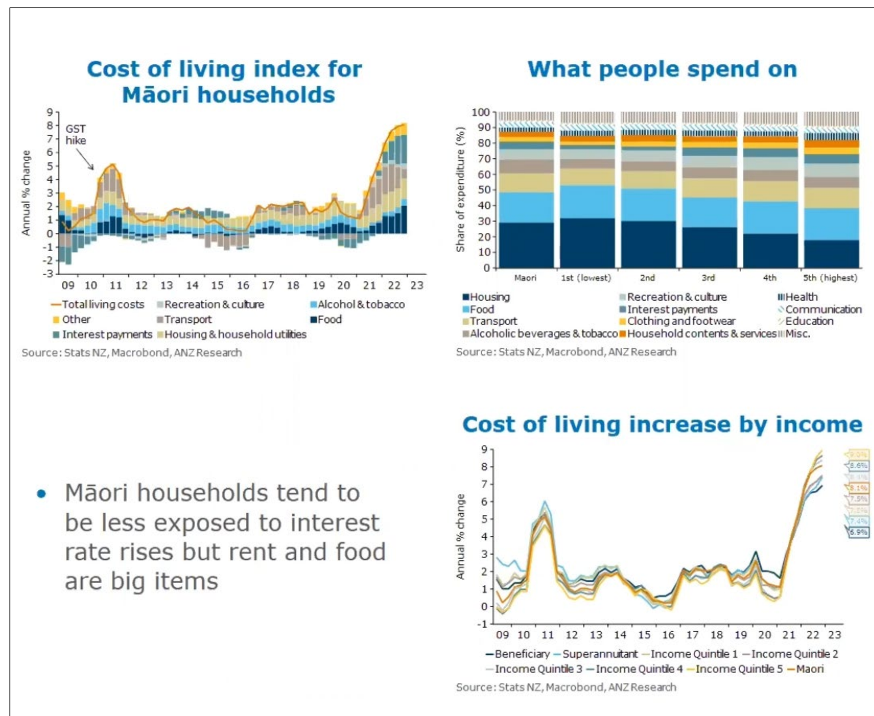



Figure 35

Māori tend to be less exposed to the impact of interest rates rising, reflecting a low home ownership rate, but are more affected by rent rises and the cost of food. Overall, if cost of living trends are examined, it's been dramatic for everyone but Māori have had an increase that is more than the rate of inflation.

In addition to the extreme increase in costs of imported goods, fuel and food, New Zealand is feeling the effects of the government Covid stimulus package, in what many are calling the biggest policy mistake in decades and creating the largest increase in national debt since 2008.

Looking to keep the economy going, the government created “make work” schemes, reduced the fuel tax and provided loans and grants in the anticipation of a long period global lockdown period due to the pandemic. To do this they had to issue bonds and securities and borrow to fund it all.  This had the effect of insulating New Zealanders in the short term and essentially created a boom in the economy.

Māori benefitted from this at that stage as they are heavily employed in the manufacturing and construction sectors. This meant that everyone had money in their pockets and as a natural occurrence, the cost of goods and then services increased once the borders opened again, and the population shifted from buying goods to buying services. This created an

inflationary effect and has led to the economic situation we currently are in with inflation sitting at 7%.

Inflation rate predictions are nigh on impossible at this stage due to the volatility of the international financial markets. The collapse of three small to medium banks in the USA triggered a move by major bank account holders to shift their funds from small / medium sized banks to the large banks.

Coupling this instability with the collaboration of China, Russia, India, South Africa and Brazil to create a new gold standard currency adds up to a major effect on the confidence of the financial markets and creates a stalling effect on banks and government financial controller entities as they wait to see what the ripple effect is.

It is possible that inflation could be stuck as financial institutions would not be able use the mechanisms, they currently have to lower interest rates, including raising the Official Cash Rate (OCR), which increases the cost of business for banks doing business with each other, which affects their profit margins and in turn affects mortgage rates and loans.

If the OCR is used as it has traditionally been, this would translate to businesses and people have less to spend, businesses lowering the cost of goods and services, and in so doing reducing the inflation rate. Adrian Orr, the head of the Reserve Bank, has openly admitted that he is, in fact, engineering a recession in order to reduce inflation.

The current thinking is that inflation will reduce and also that a “hard landing” is likely for the national economy when the effects of the recession are in full effect.

This will have a particularly hard impact on Māori as the cost-of-living crisis continues to escalate.

Climatic change is producing extreme weather events such as the recent Cyclone Gabrielle which has had a major effect, not just on Māori but the whole of Aotearoa. In Tairāwhiti, food production was devastated and was a major contributor to the increase in cost of fruit and vegetables of up to 22%[688]. Despite the lack of supply supermarket chains Foodstuffs New Zealand and Progressive Foods supermarkets made $430 million a year[689]

There are major global economic developments that are occurring that could very well see the globe heading into a recession or even depression. The USA banking system is fluctuating, the ripple effect hitting other banks such as Credit Suisse[690]. The current development of the BRICS currency as a replacement of the USD has gained further momentum in the face of US sanctions on Russia. The ASEAN association made a recent announcement to increase regional payment connectivity efficiency between its member

[688] https://www.rnz.co.nz/news/national/489686/fruit-and-vegetable-costs-up-22-percent-as-annual-food-price-inflation-soars

[689] https://www.stuff.co.nz/business/127979707/430-million-a-year-in-excess-profits-but-no-supermarket-split

[690] https://web.archive.org/web/20230406012653/https://www.cnn.com/2023/03/17/business/global-banking-crisis-explained/index.html

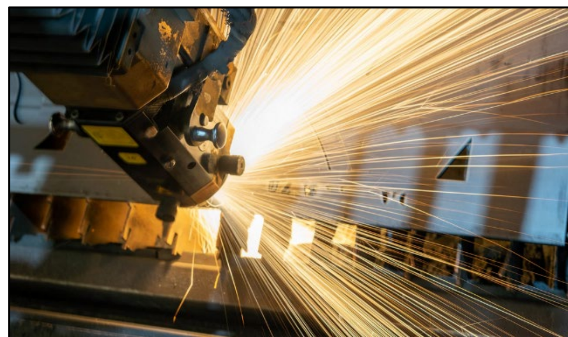
nations and use local currency transactions[691] as a way of reducing reliance on the USD and the announcement that Germany, a major global economic player is entering into a recession.[692]

The knock-on effect of this may be the retrenchment of governments global economic policies in favour of creating smaller collective trading relationships, as evidenced by the ASEAN initiative. This could lead to global supply chain issues, the dissolving of trade agreements and increase on tariffs on exports, all of which have been critical to the New Zealand economy.

## Investment and Development in Key areas

Investment and development in key areas as described below will be essential if supply chain issues become critical.

**Local Production and Manufacturing**:



Encouraging and supporting local production and manufacturing capabilities to reduce reliance on imports and decrease vulnerabilities associated with long-distance supply chains. Investing in domestic industries, fostering innovation, and promoting collaboration between businesses and government would be vital. This opens up huge opportunities for Māori in remote regions using a TAMPPs model.

**Enhanced Logistics and Transportation**:

Improving transportation infrastructure, including roads, ports and shipping, and airports, to streamline the movement of goods and reduce delays. This can include alternative 'blue logistics investments' in places such as the East Cape where old coastal shipping routes can be re-established using new technology in coastal Sailing vessels. Enhancing logistics capabilities, such as optimising freight routes, implementing advanced tracking systems, and adopting efficient inventory management practices, can also help improve supply chain efficiency. This could see significant value for Tainui given their investment in the freight and transport hub they have de eloped in the central Waikato.

[691] https://www.aseanbriefing.com/news/asean-to-increase-local-currency-transactions-reducing-reliance-on-the-us-dollar/

[692] https://edition.cnn.com/2023/05/25/economy/germany-recession-q1-2023/index.html

**Digitalisation and Automation**:

Embracing digital technologies and automation can enhance supply chain visibility, coordination, and efficiency. Technologies such as blockchain, IoT (Internet of Things), and data analytics could improve transparency, traceability, and real-time monitoring of supply chain activities, enabling timely decision-making and proactive problem-solving. This technology could be used to enhance and utilise local provenance stories and indigenous brand development which could lead to enhanced premiums from unique products that meet high value consumer demands.

**Collaboration and Communication**:

Strengthening collaboration and communication among stakeholders in the supply chain, including suppliers, manufacturers, distributors, and retailers, could help address issues collectively. Sharing information, coordinating efforts, and building strong relationships can foster resilience and responsiveness in the face of disruptions. This could be significantly improved by having an indigenous values base across the whole supply chain.

Māori have a unique opportunity to create beneficial outcomes for the whenua, the moana, the awa, and tangata by engaging with their Mātauranga Māori and developing innovative products, services, and a multitude of processes – production, supply, leadership, cooperation, and negotiation, to name but a few.

If done correctly, according to indigenous values and practices, these innovations would be Socially, Environmentally, Culturally and Economically (SECE) responsible and enhancing. This would create opportunities not just within the Māori world, but also for Aotearoa as a whole, as global demand for SECE sustainable and responsible products is exponentially increasing. Some markets in the UK have already flagged that NZ produce that does not meet sustainable production targets will no longer be able to enter those markets.

The development of a global indigenous network based on true indigenous values and practices would also create opportunities for cross-cultural SECE development. Creating an environment in which indigenous people can communicate, sharing knowledge and ideas, lessons learned, and successes gained would lead to the development of advanced indigenous capability to protect and enhance their environments and peoples. This in turn would create opportunities and capability to produce products, services and processes that are sustainable and economically beneficial which could be adopted by non-Māori.

## Barriers to Māori economic development

Māori have always been affected by economic fluctuations over and above the level of pākehā, as is discussed later in this paper, and there are further obstacles that hinder the ability of Māori to further develop their economic future.

Whenua Māori is often fragmented and situated in unfavourable locations, such as being landlocked, hilly, marginal, or prone to erosion, a direct result of confiscation as the best whenua was taken from them and then privatised to prevent it being reclaimed.

Collective ownership of whenua through shareholding is a bastardisation of the relationship that Māori hapū have with the whenua within their rohe. It is a reflection of the use rights that hapū and the whānau therein have to specific areas and resources. Traditionally these use rights would be managed by Rangatira, and the benefits distributed to whānau and tangata according to need and the amount of time and effort put in.

The translation of this into shares has meant that fragmentation of land ownership has occurred as whānau have grown. This has meant that the area of whenua available for development has either reduced or the ability to make effective management decisions has been reduced with conflicting ideas by shareholders on the best strategies.

The rating of whenua Māori has been a long-standing issue, going back almost 100 years. In the early 1900s, whenua Māori had been surveyed, often without notice and rates were charged also without notice and were left to accumulate to a point where Māori were unable to pay. Under the implied threat of government troop involvement, Māori were given the choice to either pay the rates arrears or surrender whenua in lieu of payment.

The accumulation of unpaid rates created a cycle where the lack of development on the land restricted Māori ability to pay rates, and existing rates arrears impeded their ability to engage with local authorities to facilitate land development. This was part of a deliberate colonial strategy. Additionally, the current rating law prohibited homeowners on Māori land from availing rates rebates in situations where there were multiple homes on the property or when the land has multiple uses.

This has thankfully been changed in recent years. The Local Government (Rating of Whenua Māori) Amendment Act 2021 has provided the opportunity for Māori to get out from under the yoke of historic and current rates arrears. The new ratings act, amongst other things[693] ;

- Grants local authorities the authority to eliminate outstanding rates payments.
- Designates most unused land, including Ngā Whenua Rāhui covenant land reserved for conservation, as non-rateable.
- Establishes a legal process for granting rates remission on developing Māori land.
- Permits multiple Māori land blocks originating from a parent block to be consolidated for rating purposes.
- Allows individual houses situated on Māori land to be assessed as a single rating unit, enabling homeowners with low incomes residing on properties with multiple homes to qualify for rates rebates.

The act is by no means perfect but, considering that ratings legislation had remained largely unchanged since 1924, it is certainly a big step in the right direction.

[693] https://www.dia.govt.nz/Whenua-Māori-rating

Limited access to capital has been a significant barrier for Māori economic development. Restricted access to investment capital, loans, and financial resources has hampered the ability to start businesses, expand existing ventures, and invest in infrastructure.

### COVID-19 Support

When analysing the support provided during the COVID-19 pandemic, it was found that Māori-owned businesses and sole traders received similar rates of the COVID-19 wage subsidy compared to their non-Māori counterparts.

However, the situation was quite different for significant employers of Māori. Data shows that the percentage of Māori sole traders, Māori-owned businesses, and significant employers of Māori who received the COVID-19 wage subsidy in comparison to non-Māori counterparts. The data reveals that significant employers of Māori received the wage subsidy at a lower overall rate than non-significant employers of Māori, with a notable difference of 15 percentage points.

This difference in subsidy receipt rates cannot be attributed to industry or regional disparities. The lower rate of significant employers of Māori receiving the wage subsidy raises concerns, as it may have had adverse effects on employees and their whānau (family) throughout the pandemic. These impacts could have enduring consequences into the future. It is estimated that if significant employers of Māori had received the wage subsidy at the same rate as non-significant employers of Māori, an additional 6,000 employees, primarily from the Māori community, would have been eligible for the wage subsidy.

This disparity in subsidy support highlights the potential disparities in support and assistance provided to significant employers of Māori during the COVID-19 pandemic. Addressing these inequities is crucial to ensure fair and equitable support for all businesses and employees, irrespective of their ownership or employment status.[694]

Māori have faced institutional barriers limiting their participation in economic activities. These barriers include biased policies, regulations, and decision-making processes that have, at best, hindered Māori aspirations, perspectives, and needs.

Disparities in education and skills development have hindered Māori economic progress. Access to quality education and training opportunities is essential for Māori to acquire the necessary skills and knowledge for employment, entrepreneurship, and leadership roles.

[694] Te Puni Kōkiri Te Matapaeroa 2020 Report p26

## Generation Z

Changing attitudes within the Gen Z demographic will have considerable impacts on traditional sales and marketing regimes. If product development and promotional strategies are carefully designed to meet the changes that are occurring within this generation significant growth opportunities can be captured. These opportunities are consistent with or could be derived from primary production within a new transcultural production model.

Group of protestants at a global climate strike[695]

This generation is struggling within current late-stage capitalism, and they are turning increasingly towards behaviours such as radical rest, delusional thinking, and they are increasingly becoming self-indulgent. In an attempt to mitigate growing levels of anxiety about uncertain futures concerning the earth's environment, the cost of living, the inability to secure housing, and general socio-economic impacts, this generation is significantly re calibrating their approach to finance - and money.

Many are becoming staunch anti-capitalists who drove the great resignation movement. They have emerged from a global pandemic and now face growing inequality, low pay, structured recession, and spiralling inflation.

According to a recent study by Fidelity Investments, 45%[696] of people ages 18 to 35 no longer see the relevance of saving until a range of indices stabilise. 55% of those surveyed abandoned retirement planning and the majority were losing faith in the government providing traditional support such as superannuation.

Most did not think they would have a realistic chance of retiring given the increasing cost of living and few expected to achieve individual home ownership. Statistically it is saying that the typical age of first-time buyers is increasing and student debt cripples opportunities to secure sufficient money for a deposit.

The focus has begun to shift to a well-being economy, which is not measured by finance. Mental well-being and general health are being increasingly seen as a priority and accordingly consumer preferences are changing as are lifestyle choices. In some there is a growing trend towards fatalism. This stimulates a spendthrift attitude. Mental well-being, personal growth, and fulfilment are being reprioritised ahead of financial gain and the survey found that 73%[697] of Gen Z would rather have a better quality of life than cash

[695] https://commons.wikimedia.org/wiki/File:20210319_Klimastreik_D%C3%BCsseldorf_1,5_Grad.jpg

[696] https://www.fidelity.com/bin-public/060_www_fidelity_com/documents/about-fidelity/FID-SORP-DataSheet.pdf

[697] https://www.intuit.com/blog/wp-content/uploads/2023/01/Intuit-Prosperity-Index-Report_US_Jan-2023.pdf

reserves and 66% are only interested in finances as a way to support their other [immediate] interests in life.

The growing trend towards the belief that events are predetermined and inevitable, stimulates a shift towards what's termed a YOLO" mentality. With a fatalistic outlook, individuals may adopt a "You Only Live Once" mentality, believing that life is unpredictable and short. This can lead to a desire to indulge in immediate gratification and spend money recklessly, assuming that the future is uncertain.

Minimisation of responsibility is also a key element of fatalism which can diminish individuals' sense of personal agency and responsibility. If they believe that outcomes are predetermined, they may feel less accountable for their financial choices and be more inclined to spend without considering the long-term consequences.

Present-centred focus becomes the norm with a shift of focus away from the future and towards the present moment. Instead of planning and saving for the future, individuals may prioritise immediate pleasures and spend money on instant gratification, disregarding the need for financial prudence.

New emotional coping mechanism are emerging.  Fatalism can serve as an emotional coping mechanism in the face of uncertainty or adversity. Some individuals may adopt a spendthrift attitude as a way to seek temporary happiness or distract themselves from existential concerns or stressors.

This evolves into hedonistic pursuits where a fatalistic outlook can foster a belief that life is uncertain and unpredictable, leading some individuals to prioritise pleasure-seeking and hedonistic pursuits. This can result in impulsive spending behaviours as they chase immediate gratification without considering the financial implications.

While it is true to say that not everyone who adopts a fatalistic perspective will develop a spendthrift attitude and that individual personalities, values, and socioeconomic factors also play a significant role in shaping one's financial behaviour, consumer choice is none the less significantly changing.

Gen Z'ers are now prioritising quality of life over financial achievement. TikTok's "soft life"[698] is driving a counterculture which influences more than 250 million people – and growing. Recent surveys in the US by Intuit shows new trends and shifts away from traditional savings and employment models.

This also impacts relationships and social connections. In an interesting twist, fatalism may be driving and increase of both sugar babies and sugar daddies in the US. In Massachusetts, the website has seen an 82% increase in sugar daddies, while there's a slightly higher

[698] https://www.tiktok.com/tag/softlife?lang=en

increase, 87%, in sugar babies.[699] People turning to sugar dating in desperation aren't likely to find a successful relationship. But once that relationship is established, having someone to turn to in a moment of need can be a benefit of sugar dating.

The sugar daddies here aren't looking to give handouts. They're not looking to just financially support someone without a connection or relationship. While every relationship is different, it's not uncommon for sugar daddies to help pay rent, bills or for meals. Another benefit is having someone with experience offering mentorship and advice for your career — especially during times of uncertainty.

People are also opting out of traditional employment and the old models of wage earning. Recently - more than 6 million Americans[700] filed new unemployment claims on one week alone. These claims heavily come from gig workers, retail workers and people in the food industry.

Some Gen Z'ers are reacting to the financial downfall of society by simply doing nothing. *Radical rest* is another concept emerging which disconnects the generation from conventional ideals of success. It promotes well-being by way of self-care and repose. In China this has taken a novel turn – there the youth are initiating what they call *tanping* or "lying flat."

These 'generational' ideologies are now including not getting married, not having children, not buying a house or a car, and refusing to work extra hours or to hold a job at all.

Understanding these generational shifts and the consumer preferences they bring is critical in developing new trading relationships and marketing strategies. These are far removed from traditional or contemporary Māori employment and buying trends, but Rangatahi are none the less being shaped by these exotic influences and vogues.

## Inequality and Poverty

Persistent socio-economic inequalities and high rates of poverty among Māori communities pose significant challenges to economic development. Addressing poverty and reducing inequality are crucial for creating a foundation of well-being and enabling Māori to participate fully in economic activities.

The persistent ethnic income gap has resulted in a widespread issue of in-work poverty, where individuals are employed but still face poverty.[701] This enduring inequity reinforces

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[699] Coronavirus: 'Sugar daddy' dating in Massachusetts is up 86% during COVID-19 pandemic compared to last year - masslive.com. https://www.masslive.com/coronavirus/2020/04/coronavirus-sugar-daddy-dating-in-massachusetts-is-up-86-during-covid-19-pandemic-compared-to-last-year.html

[700] https://www.masslive.com/news/2020/04/coronavirus-unemployment-means-recession-likely-depression-possible.html

[701] Plum et al., 2019

systemic disadvantages, as effective policies to address labour market failures are lacking. As a result, many Māori individuals find themselves in low-skill, low-security, and low-paid occupations, often necessitating financial assistance.

Wealth inequality further exacerbates disparities across various sectors such as health, justice, and education. It has a detrimental impact on economic growth by limiting innovation and productivity and negatively affects social cohesion. The wealth gap also hinders Māori access to entrepreneurship since initial capital is a prerequisite for further wealth creation. Although there has been a 67% increase in entrepreneurial and dividend income between 2013 and 2018, it represents a smaller proportion of total income. Additionally, Māori households have lower levels of interest and pension fund income due to limited savings and investments.

These factors contribute to an ongoing cycle of limited economic opportunities for Māori individuals and households. Addressing wealth inequality and promoting equal access to resources and opportunities are crucial steps in achieving greater equity and improving the overall well-being of the Māori community.

These barriers impede Māori from fully engaging with their land, whether it be for housing, cultivating food, or generating financial returns. Consequently, the capacity to derive wellbeing from land is currently constrained, as many Māori are unable to fully unlock the inherent potential benefits land holds.[702]

There has been clear and obvious success for Māori from an economic perspective but how has this success been defined and measured? The Te Ōhanga Māori report has been produced for the Reserve Bank by a financial reporting firm. Their measure of Māori success primarily is the level of contribution to GDP.

## GDP and Profit Motive Metrics

The innate danger of using GDP and adoption of the profit motive as a measure of success comes with a great risk to indigenous values. It can undermine indigenous principles in several ways:

1. **Limited value recognition:**

   Indigenous principles often emphasise holistic well-being, community connections, and sustainable relationships with the environment. However, the GDP and profit-oriented approach primarily measures economic output and financial gains, neglecting the broader social, cultural, and environmental values intrinsic to indigenous communities.

[702] Te Ōhanga Māori 2018

2. **Extraction and exploitation**:

   The profit motive can drive resource extraction and exploitation, often disregarding indigenous rights, traditional knowledge, and the sustainable use of natural resources. This approach can and has led to environmental degradation, loss of cultural heritage, and the disruption of indigenous communities' self-determination.

3. **Individualistic focus**:

   Indigenous principles emphasise collective well-being and interdependence. In contrast, a profit-oriented approach prioritises individual accumulation and competition, which undermines the communal aspects of indigenous societies and erode traditional governance structures and decision-making processes.

4. **Cultural commodification**:

   Emphasising profit can lead to the commodification of indigenous cultures, practices, and artifacts. This can result in cultural appropriation, misrepresentation, and the commercialization of sacred traditions, eroding the authenticity and integrity of indigenous cultures. As has been seen in multiple examples in Māori history.

5. **Inequality and marginalisation**:

   A focus on GDP and profit often perpetuates socioeconomic inequalities and marginalises indigenous communities. Indigenous peoples may face barriers to accessing resources, markets, and opportunities, leading to economic disparities and social exclusion.

One only has to look at rural communities off the beaten track in the Waikato and Tairawhiti to see just how true this is. The level of inequality and poverty can be seen there in the lack of health and education services and the poor standard of housing as communities struggle to make ends meet even in the face of all the financial success. As Tom Roa said in an interview in 2017, "I regret — and I think it's really important to note the regrets — I regret that some of our people are still on the poverty line. I regret that some are still homeless. And I'm sad that too many of our people are in poor health. So, we need to do much more work in those areas.[703]

## Adoption of Corporate Models

Māori have needed to adopt corporate models which are based pākehā financial structures in order to negotiate with the Crown and receive compensation through the settlement

[703] Tom Roa: Understanding mana and our place in the universe Dale Husband (2017)

process. Government constructs and embedded consultants has been a part of the Treaty settlement continuum.

This has come at a cost. Assimilation is pervasive. The adoption of these pākehā models and their metrics of success have in some cases shifted Māori core indigenous values of service to Papatūānuku and protection of her tamariki and mokopuna into a hybridised system of caring for the environment, set against not wishing to sacrifice financial gain.

The process of assimilation and colonisation has informed and enforced this change and it has come at the expense of the Te Ao Marama. The whenua, awa and moana, hau takiwā and kōhauhau are suffering as we continue to use modern industrial pesticides and fertilisers, agricultural and horticultural methods, and systems to increase production values and profit margins at the expense of environments.

A classic example of this can be found in what was the Eyrewell Forest in the South Island which was given back to Ngai Tahu in 2000. The forest was the only location in the world where the Eyrewell beetle was found.[704] The beetle was discovered in the early 2000s, the last time being 2005 when 5 were found.

Despite the efforts of the Department of Conservation from 2005 to 2013 to encourage the retaining of areas of forest where the beetle had been found, Ngai Tahu Farming proceeded with clearing the forestry for dairy farming purposes leaving only one area of 120ha where the beetles had potentially been found.

The other forest areas where they were found were cleared and mulched, almost certainly leading to the extinction of the species. Ngai Tahu Farming engaged Lincoln University from 2013 to survey the areas and find the beetles without success, the surveys were discontinued in 2020.

Ngai Tahu Farming have since begun investing in minimising water use, nitrate leaching and native plant restoration but, unfortunately for the Eyrewell beetle, this shift has been too little, too late.

The adoption of the corporate model at the expense of indigenous values can be seen across the settlement landscape, but that tide is turning.

## Transition into a Te Ao Māori Primary Production model

The need to transition into a Te Ao Māori Primary Production model with SECE values and metrics is thus vital. One need only look at the Tohu Wines example to see evidence of this in action. The first Māori-owned Winery in the world has adopted a quadruple bottom line approach where the environment, the people, progress through sustainable innovation and

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[704] https://www.newsroom.co.nz/hello-cows-bye-bye-rare-beetle

profit are all equally important and one bottom line is not sacrificed at the expense of another. Their Whenua Ora programme embraces the responsibility of leaving the land and water in a better state than they inherited it.

The data in this section is telling and it is critical to assessing the success likelihood of developing a TAMPP Model for whenua Māori land development and SECE growth.

As found, by using indicative margin analysis, Māori-owned businesses experienced a 200% increase in profitability over the ten-year period until 2020, while non-Māori-owned businesses saw their indicative margins rise by 75% during the same timeframe. This constitutes a 260% improvement over non-Māori businesses.

The inherent entrepreneurial capabilities of Māori have not diminished since the punishing days of colonisation driven annihilation policies, land confiscation and murder in the late 1800s.

Māori resilience is without question, as is their adaptability. They are able to pivot faster than most, and the quadruple bottom line / SECE foundation to their business development model places them at the crossroads of change and the need for sustainable primary production.

Whether this model is supported or whether this capability brings challenges as seen in the past is yet to be determined but, given the strength of the Māori economy and the cohesion and geopolitical influence Māori can exert upon Government today, it is inevitable that Māori will apply their traditional land use practices in the long term on their own whenua, regardless of pākehā influence.

For Māori, resilience is drawn from the natural living world and connection to whenua. Individuals are encouraged to take on good qualities by being compared with examples in nature.[705]

Great endurance was praised with the saying ‘Manawa tītī’ (the heart of a tītī, or petrel), as this bird was noted for its ability to stay aloft for long periods at sea. A person was encouraged to be as firm as ‘te toka tū moana’ (the boulder standing in the sea), not like ‘te toka rurenga tai, neneke i te ngaru’ (the rock rolling in the tide, shifted by a wave).

A lookout person was exhorted to have an eye like the star Rēhua (Antares), which was unblinking. But someone with a sharp eye for small objects was said to have ‘he kanohi hōmiromiro’ – the eye of a tomtit, which was noted for this ability.

Individuals were also encouraged to succeed by looking at how birds and grubs could overcome the lofty kahikatea (white pine). One saying was ‘He iti te kōpara ka rērere i te puhi o te kahikatea’ (though the bellbird is small, it can reach the crown of the kahikatea).

[705] https://teara.govt.nz/en/korero-taiao/sources

Another was ‘He iti te mokoroa nāna i kakati te kahikatea (though the grub is small, it gnaws away at the white pine).

Hei Whakapiki Mauri – the importance of having an inner strength – is inherent in indigenous people, especially those who have suffered from colonisation.

The following whakatauki originated with Potatau Te Wherowhero, the first Māori King "Kotahi te kohao o te ngira e kuhuna ai te miro ma, te miro pango, te miro whero. I muri, kia mau ki te aroha, ki te ture, ki te whakapono". He spoke about how individual threads are weak, but the process of weaving three threads of differing colour together makes for not only a strong fabric, but they become beautiful and tell a story.

A te Ao Māori Primary Production Model could offer a way forward for Aotearoa in addressing multiple sector challenges but a pivot by industry back to the 1850's system would be required.

## Skills Matrix

To achieve the execution of the TAMPPS Model [which will require a **Strategic Research Alliance**.]

**GENERAL CATEGORIES.**

The first six categories require specific indigenous knowledge and skills and they set the platform for the delivery of high-impact research that address Māori needs and aspirations using traditional knowledge as a foundation. The remaining 3 categories are a blend of traditional knowledge and western science (WS) with a strong emphasis on WS in the last two.

**Māori** **Tauiwi.**

| Maunga / whenua consultation [and to assess current land use / state] | Community engagement: To define needs and aspirations. | Strategic Planning [and transcultural critical steps] | Design. Kaupapa Māori Research with Science validation | Research methodologies. WS/Mātauranga Māori: A transcultural method of inquiry. | MM research execution – which investigates all SECE elements. This produces case study and quality **business case** information. | WS research execution – which investigates all SECE elements. This produces case study and quality **business case** information | Data analysis [both qualitative and quantitative] to create Impact. | Investment and business case evaluations. Plus: Monitoring and Evaluation |
|---|---|---|---|---|---|---|---|---|

**ASSESSMENT OF INDIGENOUS / WESTERN R&D SKILLS** – This is not an exhaustive list, but it shows some unique distinctions between the two skill sets.

| **SECE SKILL SETS NEEDED - INDIGENOUS** | **SECE SKILL SETS NEEDED - WESTERN** |
|---|---|
| **Social**<br>Marae, Whānaungatanga, Manaakitanga, Education, Training, Social Enterprises, Marae / Whānau Economics | **Social**<br>Socioeconomics, Structured Poverty, Education, Enterprise Development, Equity, Equality, Deprivation Impacts. |
| **Environmental**<br>Te Taiao, Papatūānuku, Whenua, Ngahere, Awa, Moana, Maunga, Mana Tiaki, Cultural / Biodiversity Icon Indicators, Whakapapa, Ahi Kā, Aroha, Manaakitanga, Organic Intellect, Bio-Acoustics. | **Environmental**<br>Soil, Carbon Economies, Freshwater Ecology, Biodiversity Restoration, Pest Control, Organics, Fertiliser Production, Erosion Control, Climate Crisis, |
| **Cultural**<br>Mana Atua, Whakapapa, Manaakitanga, Aroha, Te Reo, Tikanga, Kawa, Mauri. | **Cultural**<br>Cultural Immersion and Education |
| **Economic**<br>Wellbeing, Māori Economics, Tau Utuutu, Social Enterprise, Marae Provisioning, Values Based Economics, Provenance Story, Unique Brand, Community / Te Taiao Investment, Development Constraints [MLC Etc] TOW and Settlements. | **Economic**<br>Farm Mgt Systems, Primary Production [All Subsets], Agro-Forestry, Agro-Ecology, Organics, Irrigation, Pasture Composition, Pest Control, Cost of Production, Animal Feed, Waste Mgt, Circular Economics, Investment Analysis, Supply Chain Logistics, Marketing, Branding, Financial Mgt. |

**Application.**

As with all bicultural research initiatives the identification and the application of skill sets drawn from two at times opposing world views needs to be developed iteratively. Using Co design and participatory research methods, skill sets drawn from indigenous and non-indigenous researchers can be developed to complement each other, however, for the research to address indigenous peoples needs and aspirations, a paradigm shift needs to occur within the western science community.

# A New Trajectory

## Regen-Agriculture, Agroecology and Te Ao Māori Primary Production Systems

The preceding sections of this paper articulate the problems we face at a global and local level. They also indicate that a number of more recent trends appear to shift industrial agriculture and primary production into a stronger alignment with indigenous values and principles.

The original Agroecology [AE] Model has been recently refined focusing on stronger symbiotic relationships within the natural living world, which includes tangata. There has also been a shift in some quarters towards organic production which also strongly aligns with indigenous values.

Agroecological developments in existing plots and design of plots to be planted.[706]

Organic primary production could therefore be seen as a soft entry point into a TAMPPS model. Many naysayers posit that organic farming reduces yield and profitability and others contend that there is insufficient organic fertiliser available to sustain widespread organic production. These are viewed by Māori simply as opportunities.

When agroecology first emerged in the early 1980s, it coincided with a shift in Government policy and focus on Māori land use and management. The more circular and regenerative whenua Māori land use practices, based on whakapapa connection to Papatūānuku and community resilience [especially at a whānau / hapū level], still thriving in the 1970's, were heavily impacted.

From the 1980s forward, the shift saw increased consolidation of previously small and viable whanau farm units into corporate farming blocks, commodification, and industrialisation, where external control was being increasingly applied over whenua Māori. This represented the next wave of colonisation, with its roots back in the 1800's.

In the mainstream sector, agroecology was most often viewed as a form of resistance and an alternative to the changes in the food system as a result of the green revolution, simplification through monocultures, industrialization of all aspects of food production, processing, and distribution, and the increasing corporate control and dominance of the

[706] https://commons.wikimedia.org/wiki/File:Redessiner_les_paysages_viticoles.jpg

food supply chain.  These were the death knells of intergenerational land use practices that had sustained Māori here in Aotearoa for more than 800 years.

The most common definition of agroecology at that time was the application of ecological concepts and principles to the design and management of sustainable agroecosystems, or the science of sustainable agriculture[707].

In its early years, agroecology was at the farm level, or the farm agroecosystem which was in effect a return to the whenua Māori land use practices that Māori had used for generations. It encouraged the substitution of inputs and practices of conventional industrial farming (especially fossil fuel-based chemicals and fertilisers) and a move towards a more te Ao Māori-centric Model [which was structured under a certifiable organic production system.]

## Symbiotic Multi-Trophic Agroecology

Symbiotic Multi-Trophic Agroecology (SMTA) is an agricultural approach that aims to enhance the sustainability and ecological balance of farming systems. It does this by promoting symbiotic relationships between different trophic levels within the ecosystem and is a clear advancement on the original Agro-ecology Model. A te Ao Māori Primary Production system [TAMPPS] is closely aligned to SMTA, in fact it improves on it.

In mainstream agriculture, it has become evident that pure substitution of inputs was not enough to overcome the problems common to monoculture systems. Non-Māori farming systems began to be redesigned for resistance to these problems. Te Ao Māori land use systems however enhance diversity back in farming systems - holistically.

For Māori, the shift back to Te Ao Māori principles is ironic at best, given that the shift occurring in mainstream primary production in the 1980s was happening at the same time as a new corporate Model was being implemented over whenua Māori, destroying the very practices RA was proposing. The disconnect was alarming.

By the end of the 1990s, the definition of agroecology had shifted and was now the ecology of the entire food system[708]. The agroecosystem was no longer just the farm, it needed to include all aspects and participants in the food system. This means the entirety of humanity. This highlighted the importance of re-establishing the close relationships between the people who grow the food and the people who eat it, while reducing the negative impacts of the intermediary system between the two.

Once again – the irony here for Māori was that this definition and the principles it expounded were closely aligned to, if not a mirror of, the te Ao Māori land use practices being dismantled across huge tracts of whenua Māori. They were, in fact, a replication of

[707] Altieri 1995; Gliessman 1990, 1997, 2013

[708] Francis et al 2003

the values based SECE [Social, Environmental, Cultural and Economic] model that tangata whenua had used for over 35 generations, producing intergenerational resilience and wellbeing across whole communities.

## Agroecology (AE)

Agroecology became a way of building relationship-based market systems that are equitable, just, and accessible for all.[709] But it lacked cultural input and integrity as it excluded Māori – thus undermining one of its key objectives - equality.

In order to recalibrate food system change, agroecology took a fiscal / political [economic] focus in order to confront and develop alternatives to the political and economic power that had created the "lock-ins",[710] keeping food systems from changing.[711] Those "lock-ins" for Māori were founded in colonisation and white culture dominance.

Therefore, the definition of agroecology evolved to the following:

*Agroecology is the integration of research, education, action and change that brings sustainability to all parts of the food system: ecological, economic, and social.* But it fails to include culture. [other than assuming this would be captured in the social context which was typical of a dominant culture design process.]

What stood out was that:

- It was Trans-Disciplinary - It valued all forms of knowledge and experience in food system change but it was <u>not trans-cultural.</u>
- It was participatory - It required the involvement of all stakeholders from the farm to the table and everyone in between, but it excluded Māori both in the design and the implementation.
- And it was action-oriented because it confronted the economic and political power structures of the industrial food system with alternative social structures and policy action, but it did not incorporate te Ao Māori perspectives [or Māori per se] in the model.

The fact that AE replicated many of the principles and practices that Māori had used for generations was evident, as was the fact that Māori were <u>not engaged</u> in the process. Thus, what emerged was an approach that was grounded in ecological thinking where a holistic, systems-level understanding of food system sustainability was required. This is the same kaupapa used by Māori in their provisioning Model which impacted the entire supply chain.

[709] Gliessman <u>2007</u>

[710] IPES-Food <u>2016</u>

[711] Gliessman <u>2015</u>

It was assumed that transforming agriculture in a fundamental way—putting it on a sustainable path— was going to be a tremendous challenge. A basic assumption of agroecology is that we can hope to meet this challenge only if we approach it on three different fronts simultaneously.

However, had the design of the Model included indigenous people and their values, principles and practices, an intergenerational case study could have been used to meet those challenges. For Māori, a return to the te Ao Māori land use Model would have fast tracked the delivery of the desired outcomes.

The AE Model requires more and better knowledge of the ecological relationships between domesticated agricultural species, among these species and the physical environment (especially the soil ecosystem), and among these species and those of natural systems. Put simply – Mana Whakapapa.

This need was ostensibly satisfied by the science aspect of agroecology, which draws on modern ecological knowledge and methods to derive the principles that can be used to design and manage sustainable agroecosystems. However, because it lacked knowledge of the natural symbiosis that underpin Mana Whakapapa and inter-connectedness, it failed to achieve its optimum potential. It remained a dominant culture farm practice, entrenching white privilege.

The AE Model also required effective and innovative agricultural practices, on-the-ground systems that work in the present, to satisfy food needs while laying the groundwork for the more-sustainable systems of the future. In other words, intergenerational knowledge and practice that provisions whole communities. If the Te Ao Māori Model had been used to structure AE, a more practical application of agroecology, [which values the local, empirical, and indigenous knowledge] would have emerged. The Te Ao Māori Model enhances the distinction between the production of knowledge and its application.

Lastly – the AE Model required fundamental changes in the ways that humans relate to food, the economic and social systems that determine the distribution of food, and the ways in which food mediates the relationships of power among populations, classes, and even countries. Once again – put simply, this is Manaakitanga.

This element focused on serving the needs of the community and represented the social-change aspect of agroecology. Food security is a key element [and driver] of the Te Ao Māori Model [extending as far as food sovereignty].

Noting that these aspects of agroecology are critical, the use of the Te Ao Māori Model would have enhanced their integration, creating a framework for food system transformation that provided socio-economic equality, whilst transforming primary production via adherence to te Taiao and its protection [and restoration].

So, although Agroecology is a science, a practice, and a social movement, it lacks cultural inclusion and integrity. It consequently has the potential to become another dominant

cultural intervention that enhances inequality and deprivation within the rural Māori community.

The AE Model therefore needs a transcultural recalibration which is directed and led by Māori. It must not use Māori terminology and practice that is not understood [i.e., negative cultural misappropriation].

The need for this change is extenuated by a requirement to alter the current extractive and profit-motivated primary production system. The current system is commodity-focused and supplies large volumes of food to global markets, with high-external input and resource-intensive agricultural systems that have caused:

- massive deforestation,
- water scarcities,
- biodiversity loss,
- soil depletion and
- high levels of greenhouse gas emissions.

Extreme poverty persists in Aotearoa, especially in Māori communities. This is also a critical global challenge. Even where poverty has been reduced, pervasive inequalities remain, hindering poverty eradication. Deprivation indexing shows massive red scale needs in remote rural Māori communities such as East Cape / Tairawhiti and the Far North.

## The Food and Agriculture Organisation of the UN

The FAO's Vision for Sustainable Food and Agriculture is aspirational. AE has become integral to FAO's common goal in that Vision, as per:

Logo of the Food and Agriculture Organization[712]

- Agroecology is a key part of the global response to climate change and instability,
- It offers a unique approach to meeting significant increases in food needs of the future while ensuring no one is left behind, but it lacks the inclusion of the indigenous voice and knowledge.
- Agroecology is an integrated approach that simultaneously applies ecological and social concepts and principles to the design and management of food and agricultural systems, but it assumes the needs of indigenous people's cultural requirements are met in its social objective.
- It seeks to optimise the interactions between plants, animals, humans and the environment [in a dominant cultural manner] while taking into consideration the

[712] https://commons.wikimedia.org/wiki/File:FAO_logo.svg

social aspects that need to be addressed for a sustainable and fair food system, but it still excludes meaningful inclusion of indigenous knowledge and needs.

Agroecology is not a new invention. It can be identified in scientific literature dating back as far as the 1920s. It has found expression in family farmers' practices, in grassroots social movements for sustainability and the public policies of various countries around the world. The time to include the knowledge systems and practices of Māori [and all indigenous people] is overdue.

This is more pressing given that agroecology has entered the discourse of international and UN institutions.

## Agroecology vs Regenerative Agriculture

Agroecology and regenerative agriculture are both alternative approaches to conventional farming practices, aiming to create sustainable and environmentally friendly systems. While they share some similarities, there are distinct differences between the two.

**The Conceptual Framework**

Agroecology is a holistic approach that integrates ecological principles and social considerations into agricultural systems. It emphasises the interconnections between plants, animals, humans, and their environment, aiming to mimic natural ecosystems and promote biodiversity.

Regenerative agriculture focuses on restoring and enhancing the health of soil, biodiversity, and ecosystem functions. It adopts practices that build soil organic matter, increase biodiversity, improve water cycles, and enhance ecosystem resilience.

**Goals**

Agroecology seeks to develop sustainable agricultural systems that are economically viable, socially just, and ecologically sound. It aims to improve food security, enhance biodiversity, conserve natural resources, and promote social equity and resilience in agricultural communities.

Regenerative Agriculture: Regenerative agriculture aims to regenerate degraded soil, mitigate climate change, improve water quality, and enhance ecosystem services. It focuses on rebuilding soil health, sequestering carbon, and restoring ecological balance.

**Scope and Scale**

Agroecology can be practiced at various scales, from small-scale subsistence farming to larger commercial operations. It encourages local and diversified food systems, promoting community engagement and knowledge sharing.

Regenerative agriculture can be applied to different scales as well. It can be practiced on individual farms or integrated into larger agricultural landscapes to achieve broader ecological benefits.

**Techniques and Practices**

Agroecological practices include crop diversification, intercropping, agroforestry, crop rotation, biological pest control, and the use of organic fertilisers. It emphasises traditional knowledge, ecological principles, and participatory approaches to develop resilient and sustainable agricultural systems.

Regenerative agriculture incorporates techniques such as cover cropping, no-till or reduced tillage, rotational grazing, composting, and holistic land management. It focuses on improving soil health, enhancing biodiversity, and increasing carbon sequestration.

While both agroecology and regenerative agriculture offer sustainable alternatives to conventional farming, claiming one as superior to the other is subjective and context dependent.

Agroecology is often considered superior primarily because of its holistic approach, emphasising social and ecological aspects along with production. It takes into account the well-being of farmers, communities, and the environment, promoting diversified and resilient food systems.

Agroecology's focus on knowledge sharing, community engagement, and local empowerment also contributes to its perceived superiority in promoting sustainable agricultural practices. However, both agroecology and regenerative agriculture can be valuable and complementary approaches, and their implementation depends on specific contexts, goals, and available resources.

## Agroecology Alignment

Overall, agroecology aligns with and supports indigenous peoples' primary production principles and practices by valuing their traditional knowledge, respecting their land rights, promoting biodiversity conservation, fostering community participation, and supporting food sovereignty. By embracing agroecology, indigenous communities can strengthen their cultural identity, enhance their autonomy, and promote sustainable and resilient food systems that are in harmony with their ecosystems. This aligns with Regen–Ag also.

**Respect for Traditional Knowledge**: Agroecology recognises and values indigenous peoples' traditional knowledge systems, which have been developed over generations through close interactions with ecosystems. It acknowledges the wisdom and expertise of indigenous communities in sustainable land management, seed saving, agroforestry, and other traditional practices.

**Biodiversity Conservation**: Indigenous peoples have a deep understanding of the importance of biodiversity and the interconnectedness of species in their ecosystems. Agroecology shares this perspective and promotes the conservation and restoration of biodiversity through practices such as seed sovereignty, crop diversification, and the preservation of native and heirloom varieties.

**Land Stewardship and Territory:** Agroecology acknowledges the inseparable relationship between indigenous communities and their ancestral lands. It supports indigenous peoples' rights to land and resources and recognises their role as custodians and stewards of their territories. Agroecological practices respect the traditional land use systems and aim to enhance ecosystem health and resilience.

**Community Participation and Decision-making:** Agroecology emphasises the importance of community participation and decision-making in agricultural systems. It aligns with indigenous peoples' principles of collective decision-making, self-governance, and the autonomy of communities over their food production systems. Agroecology supports participatory approaches, local knowledge sharing, and capacity building within indigenous communities.

**Food Sovereignty and Cultural Identity**: Agroecology promotes food sovereignty, which aligns with indigenous peoples' aspirations for self-determination in food production, distribution, and consumption. It respects the cultural identity and food traditions of indigenous communities, encouraging the cultivation of traditional crops, traditional food processing techniques, and the strengthening of local food systems.

**Resilience and Adaptation:** Agroecology recognises the need for resilient farming systems in the face of climate change and other challenges. Indigenous peoples' agricultural practices often display resilience and adaptability to diverse ecosystems and climate conditions. Agroecology draws upon this knowledge to develop farming systems that can withstand environmental changes and support indigenous communities' food security.

**The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)**

By aligning with and supporting the principles of UNDRIP, agroecology contributes to the realization of indigenous peoples' rights to self-determination, land, culture, and food sovereignty. It recognises and respects indigenous knowledge and practices, promotes sustainable land management, and fosters the active participation and meaningful engagement of indigenous communities in shaping their own food systems.

Agroecology aligns with and supports the principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in several ways:

**Self-Determination and Land Rights:** Agroecology recognises and respects indigenous peoples' rights to self-determination, including their rights to control their own food systems and agricultural practices. It supports indigenous communities' rights to their ancestral lands, territories, and resources, and acknowledges their role as stewards of these

lands. Agroecology promotes land tenure security and community-based management of natural resources, in line with the principles of UNDRIP.

**Free, Prior, and Informed Consent (FPIC):** Agroecology values the principle of FPIC, which requires that indigenous peoples have the right to give or withhold their consent to any projects or activities that may affect their lands, territories, or resources. Agroecology respects the knowledge and decision-making authority of indigenous communities in matters related to their food production systems and seeks to engage in meaningful dialogue and consultation with indigenous peoples to obtain their informed consent.

**Traditional Knowledge and Cultural Heritage**: Agroecology recognises and values the traditional knowledge systems of indigenous peoples, which have been developed over generations through their close relationship with the land. It acknowledges the importance of traditional agricultural practices, seed saving, agroforestry, and other traditional knowledge in sustainable food production. Agroecology respects indigenous peoples' cultural heritage and promotes the preservation and revitalization of their traditional food systems.

**Environmental Protection and Biodiversity Conservation**: Agroecology aligns with the principles of environmental protection and biodiversity conservation, as stated in UNDRIP. It promotes sustainable land management practices, such as crop diversification, agroforestry, and organic farming, which help conserve biodiversity, protect ecosystems, and maintain the integrity of indigenous peoples' territories.

**Food Sovereignty and Food Security:** Agroecology supports the principles of food sovereignty and food security, as recognized in UNDRIP. It emphasises the right of indigenous peoples to healthy, culturally appropriate food produced through sustainable methods. Agroecology empowers indigenous communities to regain control over their food systems, enhance local food production, and strengthen food security by promoting diverse and resilient farming practices.

Connecting and caring for land/seeds is an important aspect of food sovereignty.[713]

**Participation and Consultation:** Agroecology emphasises the principles of participation, consultation, and collaboration with indigenous peoples. It recognises the importance of involving indigenous communities in decision-making processes related to agricultural policies, research, and development initiatives. Agroecology values indigenous peoples' knowledge and perspectives and encourages their active participation in shaping sustainable agricultural systems.

[713] https://commons.wikimedia.org/wiki/File:Conservation_of_indigenous_food_cultivation.jpg

## Alignment with the Ture Whenua Act 1993

Agroecology and the principles of the Te Ture Whenua Act 1993 and its subsequent amendments in 2020. While the Te Ture Whenua Act focuses primarily on the management and governance of Māori land, it embodies principles that align with the holistic and sustainable approach of agroecology. Here are some key points of alignment:

**Connection to the land:** Agroecology emphasises the importance of fostering a deep connection between people and the land they cultivate. Similarly, the Te Ture Whenua Act recognises the significance of the relationship between Māori and their ancestral lands, acknowledging the inseparable connection and spiritual dimension between Māori and whenua.

**Sustainable land management:** Agroecology promotes sustainable land management practices that prioritise the long-term health and productivity of the land. Te Ture Whenua Act supports the sustainable management of Māori land, aiming to protect its integrity, productivity, and environmental values for future generations.

**Community and collective decision-making:** Agroecology emphasises the importance of involving local communities and stakeholders in decision-making processes regarding land use and management. Te Ture Whenua Act promotes the participation and decision-making rights of Māori landowners and their whānau in matters related to the governance and development of their whenua.

**Biodiversity conservation:** Agroecology recognises the value of biodiversity and promotes practices that enhance and preserve it. Similarly, Te Ture Whenua Act acknowledges the importance of preserving and protecting Māori land, including its natural and cultural heritage, which often involves the conservation of biodiversity.

**Inter-generational equity:** Agroecology emphasises the responsibility of current generations to steward the land in a way that ensures its viability and productivity for future generations. Te Ture Whenua Act embodies the principle of inter-generational equity, ensuring that the decisions made regarding Māori land consider the long-term well-being and interests of future Māori generations.

It's important to note that the alignment between agroecology and Te Ture Whenua Act 1993 may vary in practice and implementation. However, both approaches share a common goal of promoting sustainable land use, protecting cultural values, and enhancing the well-being of communities connected to the land.

## Alignment to the Treaty of Waitangi

The Treaty signed in 1840 brought with it a chance to view two cultures and values from different perspectives.  Settlers in the early stages of colonisation were welcomed into the

Māori community as they bought a fresh perspective.  They were Manuhiri – birds that had flown from afar.

"Ko koe i tae mai i te tawhiti, ka whakatau mai mātou i a koe. Mā mātou e noho ana ki te taha o te Maunga, e whakapau kaha ana te whakawhetai ki tōna whakahirahira. I te tawhiti, ka kitea te huka i runga i te tōpito o tō tātou rangatira nui, ā, ka whakarongona te mana o ia i roto i te tūmau maunga katoa."

*You who have come from afar, we welcome you. We who live at the foot of the Mountain sometimes take for granted its majesty. From afar, one can see the snow on the top of our great Chief and fully appreciate his place and power in the whole mountain range.*

Agroecology principles and the Treaty of Waitangi principles both share common goals of fostering collaboration, protecting cultural values, and promoting equity and well-being for indigenous communities.

Agroecology principles and practices align with the principles of the Treaty of Waitangi, which is a foundational document in New Zealand that establishes a partnership between the indigenous Māori people and the Crown. The Treaty of Waitangi principles, as interpreted by the courts, include the following:

## Collaborations and Partnership

Agroecology recognises the importance of collaboration and partnership between different stakeholders, including farmers, indigenous communities, and government entities. This aligns with the partnership principle of the Treaty of Waitangi, which emphasises the need for collaboration, mutual respect, and shared decision-making between Māori and the Crown.

**Active protection**: Agroecology principles prioritise the protection and restoration of ecosystems, biodiversity, and cultural heritage. Similarly, the Treaty of Waitangi principles require the active protection of Māori rights and interests, including the protection of Māori culture, language, and customary practices. Agroecology practices that support sustainable land use and conservation contribute to fulfilling this principle.

**Participation and informed consent**: Agroecology emphasises the involvement and participation of local communities and indigenous peoples in decision-making processes. Similarly, the Treaty of Waitangi principles emphasise the importance of meaningful participation and informed consent of Māori in matters that affect their rights and interests, including land and resource management. Agroecology practices that involve Māori communities in land use decisions align with this principle.

**Good faith**: Agroecology principles promote transparency, honesty, and trust in relationships between different stakeholders. The Treaty of Waitangi principles emphasise the principle of good faith, which requires the Crown to act honestly, fairly, and in good

faith towards Māori. Agroecology practices that prioritise open communication, collaboration, and equitable outcomes contribute to fulfilling this principle.

**Equity and redress**: Agroecology principles strive for equitable distribution of resources, benefits, and opportunities among all stakeholders. The Treaty of Waitangi principles call for addressing historical grievances and achieving equity for Māori, ensuring that Māori have fair and equal access to resources and opportunities. Agroecology practices that address historical injustices, support economic empowerment, and promote equitable outcomes align with this principle.

**Ko Aotearoa Tēnei**

Non-Māori farmers should actively seek opportunities to collaborate and engage with Māori stakeholders in order to ensure their actions align with the aspirations and obligations outlined in the Wai 262 Report and the New Zealand Government's response.

The Wai 262 Report, also known as the "Ko Aotearoa Tēnei" report, addresses the claims of indigenous Māori people regarding their cultural and intellectual property rights, as well as their relationship with the environment. The New Zealand government's response to the report acknowledges the need to protect and respect Māori traditional knowledge and cultural values. While the obligations set out in the report primarily pertain to Māori, non-Māori primary production farmers can also contribute to meeting these obligations by incorporating agroecology practices.

## Application of Agroecology

Here are some ways agroecology can be used:

**Respecting Māori traditional knowledge:** Agroecology values and integrates traditional knowledge systems and practices. Non-Māori farmers can engage with Māori communities, learn from their traditional knowledge, and incorporate relevant practices into their own farming systems. This collaboration can help preserve and respect Māori traditional knowledge while fostering a deeper understanding of sustainable land management practices.

**Biodiversity conservation**: Agroecology emphasises the importance of biodiversity conservation on farmland. Non-Māori farmers can contribute to meeting the obligations of the Wai 262 Report by implementing agroecological practices that enhance and protect biodiversity. This may involve planting native species, creating habitats for indigenous wildlife, and implementing ecological restoration projects on their land.

**Collaboration and partnerships**: Agroecology encourages collaboration and partnerships between different stakeholders. Non-Māori farmers can build relationships with Māori communities, organisations, and iwi to foster dialogue, exchange knowledge, and explore

shared goals in sustainable land management. This collaboration can contribute to meeting the obligations set out in the Wai 262 Report by respecting Māori rights and interests.

**Incorporating cultural values:** Agroecology recognises the importance of cultural values in shaping sustainable agricultural systems. Non-Māori farmers can learn about Māori cultural values and incorporate them into their farming practices. This may involve acknowledging and respecting Māori spiritual connections to the land, implementing practices that align with Māori concepts of kaitiakitanga, and incorporating cultural protocols in their interactions with Māori communities.

**Land and resource governance:** Agroecology promotes participatory decision-making and community engagement in land and resource governance. Non-Māori farmers can support the aspirations and rights of Māori by advocating for inclusive and collaborative processes in land and resource management. This may involve engaging with local iwi, supporting Māori land rights, and advocating for equitable access to resources.

It's important to approach these actions with respect, humility, and a willingness to learn from Māori communities.

## Breaches of the Planetary Boundaries

Addressing the breaches of planetary boundaries requires a systemic and transformative approach involving all stakeholders, including primary producers, government entities, and civil society. Compliance with the key recommendations in the Wai 262 Report can provide valuable guidance and contribute to recalibrating primary production towards sustainability and remedying the breaches of planetary boundaries.

Addressing the breaches of planetary boundaries in New Zealand's agriculture sector requires a comprehensive approach that considers multiple factors, but the recommendations in the Wai 262 Report provide a blueprint for how these issues can be addressed.

## The WAI 262 Recommendations

While the Wai 262 Report primarily focuses on Māori rights and interests, its key recommendations can contribute to recalibrating primary production in a way that remedies many breaches. These include:

**Policy and governance reform:** The Wai 262 Report highlights the need for policy and governance reform to better align with Māori rights and aspirations. Compliance with the report's recommendations can contribute to broader policy changes that prioritise sustainability in primary production. This may involve implementing stricter regulations on farming practices, incentivising sustainable land management, and integrating indigenous perspectives and traditional knowledge into policy frameworks.

**Sustainable land management**: The Wai 262 Report emphasises the importance of sustainable land management practices that respect the environment and traditional Māori knowledge. Compliance with these recommendations can lead to a shift towards regenerative agriculture and agroecological practices, which promote soil health, biodiversity conservation, and the reduction of chemical inputs. By implementing these practices, primary production can mitigate the breaches of planetary boundaries related to biodiversity loss, land degradation, and chemical pollution.

**Water management and quality:** The Wai 262 Report acknowledges the significance of water and freshwater ecosystems to Māori. Implementing the report's recommendations can drive changes in primary production practices that prioritise sustainable water management, such as reducing water extraction, implementing efficient irrigation techniques, and protecting waterways from pollution. These actions can help address breaches of planetary boundaries related to freshwater use and water pollution.

**Climate change mitigation:** The Wai 262 Report recognises the importance of mitigating climate change and reducing greenhouse gas emissions. Primary production can recalibrate by adopting climate-friendly practices, such as regenerative agriculture, agroforestry, and carbon farming. These practices sequester carbon, improve soil health, and reduce reliance on fossil fuel-based inputs, helping to address breaches of planetary boundaries associated with climate change and greenhouse gas emissions.

Adoption of the Wai 262 principles and recommendations can improve climate change mitigation by incorporating indigenous knowledge systems, promoting biodiversity conservation, fostering sustainable land and water management, encouraging collaboration, and advocating for policy and governance reform. By developing an indigenous knowledge-based climate change adaptation strategy, indigenous communities can leverage their unique knowledge, practices, and values to address climate impacts, build resilience, and contribute to global climate action.

**Collaboration and knowledge sharing:** The Wai 262 Report promotes collaboration and knowledge sharing between Māori and non-Māori stakeholders. Compliance with these recommendations can foster partnerships that enable the exchange of expertise, innovation, and best practices in sustainable agriculture. By working together, primary producers can collectively address the breaches of planetary boundaries, leveraging diverse knowledge and experiences.

## The Maramataka

Moon in first quarter phase[714]

Integrating advanced knowledge of the Maramataka and indigenous knowledge on lunar cycles into climate change resilience and adaptation Models requires collaboration between indigenous communities, scientists, policymakers, and other stakeholders. It's crucial to respect indigenous intellectual property rights, engage in meaningful partnerships, and ensure that the knowledge is shared in a manner that respects cultural protocols and values.

By embracing diverse knowledge systems and integrating indigenous perspectives, a more holistic and contextually relevant climate change resilience and adaptation Model can be developed for the world.

Advanced knowledge of the Maramataka (Māori lunar calendar) and indigenous knowledge on lunar cycles can provide valuable insights into developing a climate change resilience and adaptation Model. The Maramataka is a traditional Māori calendar that follows the lunar cycles, providing guidance on various activities, including planting, fishing, and harvesting. The key ways in which this knowledge can be used to advance an adaptation Model include:

**Climate forecasting:** Indigenous knowledge of lunar cycles and their relationship to climate patterns can enhance climate forecasting capabilities. The Maramataka, for example, incorporates observations of the moon, stars, and other celestial bodies to predict weather conditions and seasonal changes. By integrating this indigenous knowledge with scientific climate data, more accurate climate predictions can be made, helping communities better prepare for climate impacts and adapt their practices accordingly.

**Ecological indicators:** Lunar cycles and celestial observations in indigenous knowledge systems often serve as ecological indicators. Changes in the moon's phases, tides, and other lunar-related phenomena are believed to correspond with various natural processes, including plant growth, animal behaviour, and climate patterns. By understanding and incorporating these indicators into climate change Models, researchers can gain a more comprehensive understanding of ecological responses to climate change and identify adaptation strategies that align with these indicators.

**Seasonal planning and resource management:** The Maramataka and indigenous knowledge of lunar cycles provide guidance on seasonal planning and resource management. These calendars recognise optimal times for activities such as planting, fishing, and hunting based on lunar phases and associated environmental cues. Integrating this knowledge into climate change resilience Models can inform adaptive strategies, such as adjusting planting

[714] https://commons.wikimedia.org/wiki/File:NASA_Goddard_Photo_and_Video_-_First_Quarter_(by).jpg

schedules, managing water resources, and aligning activities with favourable climate conditions.

**Traditional land and resource management**: Indigenous knowledge systems, including the Maramataka, often encompass traditional land and resource management practices that promote resilience and adaptation. These practices, developed over generations, incorporate sustainable land use, resource conservation, and community-based governance. By integrating this knowledge into climate change Models, sustainable land and resource management practices can be shared and implemented globally, contributing to climate change resilience and adaptation efforts.

**Cultural and community resilience:** Indigenous knowledge systems, including the Maramataka, are deeply rooted in cultural traditions and community values. They provide a framework for building resilience at individual, community, and societal levels. By recognising and incorporating cultural and community resilience practices into climate change Models, adaptation strategies can be developed that prioritise social cohesion, traditional knowledge transmission, and community empowerment.

## Ethnoastronomy

Understanding climate dynamics at a local and regional scale is critically important to the survivability of communities that are severely impacted by climate change generated storms and droughts. Central government agencies and research organisations do not hold data [and do not have sufficient meteorological sensing equipment] located in remote rural communities to be able to conduct efficient modelling.  These communities within New Zealand and, indeed globally, are predominantly made-up of indigenous people who suffer from inequality and socio-economic deprivation.

To achieve a just transition for the indigenous communities who contribute the least to greenhouse gas emissions and global warming but are impacted the most by the consequences of climate change, it needs to be understood that invariably there is deep seated traditional knowledge within those communities.

This includes oral histories and accounts of intergenerational climate patterns and impacts on the mountains, the rivers, the land and the people themselves. They have used traditional astrological knowledge and ethnoastronomy to create lunar calendars which are highly adaptable for use in climate change predictions and Modelling.

Ethnoecology is a key plank in the platform of knowledge and understanding within te Ao Māori. Although there is a growing acknowledgement of the value and depth of knowing Māori have in the Maramataka, many in the science community still disregard this. Ironically James Anthony Froude noted that, “As soon … as it was observed that the stars retained their relative places, that the times of their rising and setting varied with the seasons, that sun, moon, and planets moved among them in a plane, … then a new order of

things began....” Science had begun, and the first triumph of it was the power of foretelling the future; eclipses were perceived to recur in cycles of nineteen years, and philosophers were able to say when an eclipse was to be looked for. The periods of the planets were determined. Theories were invented to account for their eccentricities; and, false as those theories might be, the position of the planets could be calculated with moderate certainty by them.

It is important to approach the use of this sacred knowledge and ethnoastronomy with respect, cultural sensitivity, and inclusivity. Collaboration and knowledge exchange between indigenous communities and scientists should be based on trust, mutual respect, and the recognition of indigenous rights and intellectual property [which are bound in signed IP agreements that protect Māori in the use and retention of ownership of that IP].

Incorporating ethnoastronomy into climate modelling can contribute to more accurate predictions and a richer local adaptation use of those models.

In context - The study of indigenous knowledge and practices related to celestial bodies, can contribute to advancing global climate change Modelling and enhancing the accuracy of climate change predictions over the next 5 to 10 years via a number of ways:

**Localised climate predictions:** Ethnoastronomy is deeply rooted in place-based knowledge and observations. Indigenous communities have developed intricate understandings of how celestial events relate to their local climate patterns. Incorporating this localised knowledge into climate Modelling can lead to more accurate predictions at regional or community scales. This can be particularly valuable for vulnerable regions where indigenous communities have a deep understanding of their local ecology and climate systems.

**Integration of traditional observations:** Ethnoastronomy involves the observation and interpretation of celestial events in relation to environmental patterns. Incorporating traditional celestial observations from indigenous communities into climate change modelling can provide additional data points and insights into climate behaviour. By integrating these observations, Models can capture a wider range of climate signals and potentially improve the accuracy of short-term climate predictions.

**Indigenous knowledge-based indicators**: Indigenous communities often possess knowledge of celestial indicators and their relationship to climate variability. For instance, specific celestial events or constellations may mark the onset of certain weather patterns or seasonal changes. By incorporating these indigenous knowledge-based indicators into climate Models, scientists can enhance the predictive capacity of the Models, particularly for local or regional climate dynamics.

**Community engagement and collaboration:** The practice of ethnoastronomy is deeply embedded in indigenous cultures and communities. Engaging with indigenous communities, respecting their traditional knowledge, and collaborating on climate modelling can facilitate a more inclusive and comprehensive approach. This collaboration can help scientists

validate and refine climate Models by incorporating indigenous knowledge, perspectives, and observations.

Kaupapa Māori and Indigenous-led research and data collection: To incorporate ethnoastronomy into climate Modelling, it is crucial to support indigenous-led research and data collection efforts. Indigenous communities hold valuable knowledge and empowering them to participate actively in climate research and modelling can lead to more accurate predictions. This involves establishing partnerships, providing resources, and respecting intellectual property rights and cultural protocols.

**Interdisciplinary approaches:** Climate change modelling is a complex field that benefits from interdisciplinary approaches. Ethnoastronomy can be integrated into climate modelling alongside other scientific disciplines, such as meteorology, climatology, and atmospheric science. Combining different knowledge systems and methodologies can help develop more robust and accurate models.

## The Te Ao Māori Primary Production System

Our research has shown that the primary production system developed by Māori in the golden years of Māori economic and agricultural development outstretched British or European agriculture and revenue generation so significantly that the colonial settlers initiated a series of government policies to underpin their cultural annihilation objective and take their land.

Today - Māori have the opportunity to become Change Agents within Primary Production, by reinstating the historical TAMPPS Model.

Māori ensured that the Mana and the Mauri of the whenua, the awa, the moana and the people - whanau and hapū were maintained. Agroecology is fundamentally different from other Pakeha approaches to sustainable development – it mimics the TAMPPS in many ways. For example, by imitating natural ecosystems, Agroecological practices support biological processes that drive the recycling of nutrients, biomass and water within production systems, thereby increasing resource use efficiency and minimising waste and pollution. This supports a balance and enhancement of the Mauri of that ecosystem.

TAMPPS land use practice and management are based on bottom-up and territorial processes, helping to deliver contextualised solutions to local problems. So too is Agroecological which is also innovative and based on the co-creation of knowledge, combining science with the traditional, practical and local knowledge of producers. By enhancing their autonomy and adaptive capacity, agroecology empowers producers and communities as key agents of change.

Rather than tweaking the practices of unsustainable agricultural systems, TAMPPS transforms food and agricultural production. It addresses the root causes of problems in an

integrated way and providing holistic and long-term solutions that are founded in 800 years of sustainable land use in Aotearoa, prior to colonisation. This includes an explicit focus on social, environmental, cultural and economic [SECE] dimensions of production systems. It is based on the rights of, and the use of indigenous peoples and their knowledge, skills and experience – Their science.

## The Key Elements of TAMPPS

In guiding the transformation of food and agricultural systems to mainstream sustainable agriculture on a large scale, and to achieve socio-economic equality, zero hunger and multiple other current and emerging trends and aspirations locally and globally; it is noted that the following elements in the TAMPPS align with discourse emanating from multiple FAO regional seminars on Agroecology such as:

- Diversity.
- Synergies.
- Efficiency.
- Resilience.
- Recycling.
- Co-creation and sharing of knowledge.
- Human and social values.
- Culture and food traditions.
- Responsible governance.
- Circularity and economic solidarity and
- Enabling the environment.

Within a cultural context, these are foundational practices within TAMPPS. They are described these days as innovative approaches, but are, in fact, traditional principles and practices. They all fit with an overall structure of **Mana Whakapapa, Mana Tiaki and Mauri.**

The TAMPPS can help reverse extractive and exploitative land use practices which have driven primary production outside of most of our planetary boundaries. This can be done by managing and conserving agro-biodiversity and responding to the increasing demand for a diversity of products that are socially responsible and eco-responsive.

## Eco-responsive primary production practices

Eco-responsive primary production practices can generate a premium return in export product sales and revenue through several key mechanisms:

Diverse crop rotation with a cover crop[715]

The TAMPPS production systems are highly diverse. From a biological perspective, TAMPPS systems can optimise the diversity of species and genetic resources in alternative and sustainable ways. For example, a TAMPPS agroforestry system can organise crops, shrubs, and trees of different heights and shapes at different levels or strata, increasing vertical diversity.

## Traditional Crop Diversification

Intercropping, which includes traditional Rongoā species and traditional kai, combines complementary species to increase spatial diversity. Crop rotations, often including legumes, increase temporal diversity. The TAMPPS crop–livestock systems rely on the diversity of local breeds adapted to specific environments. In the aquatic world, traditional fish polyculture farming, or rotational crop-fish systems follow the same principles to maximise diversity.

The TAMPPS Model increases biodiversity contributing to a range of SECE outputs. It enhances ecosystems services within a cultural context, significantly increasing diversification and land use principles and practices. This increases productivity and resource use efficiently by optimising the inherent capability of soil and water harvesting and the use of nutrients and natural fertility generated within the production system itself.

By strengthening ecological, cultural and socioeconomic resilience, new market opportunities can be developed with discerning high value consumers. These customers understand and value the unique cultural drivers of the Model and the provenance story, captured within the brand, providing they are articulated well. This shifts marketing away from the sale of a product into being invited to share in an experience – with strong elements of exclusivity of access.

[715] https://commons.wikimedia.org/wiki/File:The_Johnson_farm_has_a_diverse_crop_rotation_with_a_cover_crop_(five_images)_(14627772232).jpg

This enhanced level of crop and animal diversity reduces the risk of failure in challenging climates and the rapid onset of changes that are impacting remote rural Māori communities.

The incorporation and the use of Rongoā Māori species within remodeled and diverse production systems reduces health risks from parasites, for example, and a reliance on chemical interventions. This diversification impacts positively on income sources derived from the use of traditional knowledge as well as premium returns from differentiated and new markets, which stabilises revenue in farming communities that face strong economic headwinds at present.

The production of traditional foods incorporated within current primary production provides opportunity for diversification of different macro nutrients, micronutrients and bio active compounds to the human diet. This aligns also with current consumer trends internationally.

Diversification and the inclusion of traditional knowledge and traditional plant species within primary production is therefore the key to the TAMPPS Model which ensures food sovereignty / security and optimum nutrition, while conserving protecting and enhancing the environment and the Mauri o Papatūānuku. Because the Model is responsive to social environmental cultural and economic needs within any given catchment and is based on multi-generational connection to those ecosystems, the TAMPPS practices can be tailored to fit both micro as well as macro needs. This is a Co-Creation process.

## Co-Design and Efficiency

It draws on 800 years of traditional knowledge and engagement with this knowledge system, building the foundation for co-design. This is distinct from typical co-design functions which exclude the voice of the mountain, the land, the river and the sea. That knowledge set is central to the process and the success of the outcome in contrast to top-down Models which fail to meet local needs and aspirations.

This innovative participatory design process, which includes the voice of the land itself, disrupts the institutional paradigm and the industrialization of primary production which has pushed land management practices outside of sustainable planetary boundaries and increased socioeconomic inequality and deprivation, especially in rural Māori communities. The TAMPPS Model responds far better to local challenges and needs, co-creating a participatory process that ensures the life force of the land and the river is recognised and enhanced.

The TAMPPS Model therefore focuses a laser attention on the design of land use diversification that specifically combines annual and perennial crops, water, soils, trees, livestock and even aquatic animals within an indigenous land use framework which builds significant resilience and sustainability.

This provides multiple benefits within the community. By combining traditional knowledge which improves ecological functions, the food production system emanating from the TAMPPS Model optimises biological synergies and resource use efficiency. This includes biological nitrogen fixation through careful selection of mixed pasture species based on traditional knowledge which contribute to soil health, climate change adaptation and primary production, simultaneously.

To maximise the efficiency within the TAMPPS system, primary production across a whole catchment is required, both in terms of time as well as spatially. This can be supported by the synchronised use of the Maramataka – the lunar calendars and cycles - that are specific to individual catchments across regions.

It also optimises the use of native species within erosion control coupled to animal health remedies. Building synergies within different components of the Model requires an in-depth knowledge of traditional plants species as well as pasture management, livestock grazing systems and the interaction between people and multiple species of traditional flora within a mosaic of land use enterprises. This approach builds unique synergies which enhance critically important functions across food systems augmenting both production and the revival of ecosystems services.

## Benefit to Environment and Community

The TAMPPS system has a far greater capacity to recover from high impact weather events such as those seen in the East Cape region, which are increasing in frequency and intensity. This Model with its contoured land use mosaic has the potential to retain 20 to 40% more topsoil in such events once fully established, which are having a huge economic impact on conventional monoculture farms systems.

They are also better able to combat pest and disease impacts by promoting natural biological complexity enhancing self-regulation within the ecosystem where the increased diversification reduces vulnerability associated with single crop or single livestock commodity failure.

Vulnerability to external risks is reduced through the utilisation of locally produced crops and animals. Additionally, risk reduction occurs with the better use of local skills and labour drawn from within the local community, who reside in the area and are attracted to a land use Model that is better aligned to traditional needs and practice.

The Model places a strong emphasis on cultural and social values advancing equity and inclusion as well as cultural identity and dignity. It engages people more directly within food production systems that provision them in accordance with the traditional needs which impacts on local marae and kura, as well as the broader community generally.

The underlying enhancement of mana motuhake which is critical to self-identity and connection to place, empowers people and communities to overcome poverty and

deprivation. So, protecting and improving Māori well-being equity and inclusion becomes a critical element within sustainable food and agricultural production within the TAMPPS Model.

Provisioning for the whole community is a core component of the traditional heritage which sits at the center of the Model, shaping and reforming human behavior and the refocusing required within a production system that is currently disconnected from cultural values.

This Model has the potential to produce positive outcomes which impact on the current food supply paradox where, in some communities, people and especially children suffer from malnutrition whilst in the same community, obesity and metabolic illnesses are far too prevalent.

It is clear that a rebalancing is required as is a primary production model which is based on indigenous knowledge and in particular knowledge systems dating back beyond colonisation where neither malnutrition nor obesity were evident.

The TAMPPS Model changes focus and responsibility in galvanising land use practice which are in urgent need of transition to more climate sensitive production processes.

Critical to the success of that Model is succession planning. Training and education for rangatahi in local food production projects will future proof the sustainable outcomes and gains required.

This is critically important within vulnerable communities where a lack of investment has historically been evident and where the just transition called for within the Paris climate change Accord is unlikely to occur, other than via internal investment from within landowner Trusts within those regions.

Beyond equitable access to land and natural capital Investment in the short term, novel transitional land use practices which enhance biodiversity and protect soil from erosion and promote ecosystem services are required in future focused modelling.

Because of the historic inequalities and high levels of deprivation within remote Māori communities and a stubborn resistance on the part of the Crown to address those issues, addressing social justice becomes a key element of the model. This model aligns with the Earth Commission's current [and growing] focus on Earth Systems Boundaries and climate / social justice. Indigenous knowledge and practices dating back thousands of years lead in this space.

The TAMPPS Model addresses the faults and impacts of a colonial primary production system that has been dominated by a single culture here in New Zealand for almost 200 years, to the detriment of the soil, the water and the communities themselves.

Māori have been forced to live within an extractive and profit motivated production system which in many cases has been established on land unlawfully confiscated from the indigenous people of New Zealand. Industrial agriculture and primary production are the

antithesis of the historical traditional land use practises which sustained Māori for centuries prior to colonisation. It is not only unsustainable, it is un-ethical.

This has produced commodities with high energy use in which one-third of the production is lost or wasted, significantly exacerbating pressure on natural capital, while failing to address food security and nutritional dilemmas within vulnerable communities. We lament climate change and global warming while annually the food waste footprint across the planet is equivalent the 3.5 giga tons of CO2.

Climate change mitigation and adaptation has become increasingly important and there are millions of dollars spent trying to invent new Land Management Practices addressing those concerns.

It is interesting to note that the dominant culture paradigm and its science research system still continues to turn a blind eye on, or undervalues and demotes indigenous cultural practice, notwithstanding the clear evidence that shows this historic Model provides a pathway forward to a more ethically responsible and sustainable future in the primary production sector.

Adopting a Model, which some may view as being Historical and irrelevant, will require a considerable shift in thinking and attitude.

The cultural resilience and fortitude shown by Māori, particularly in the Tainui-Waikato region, will prevail, allowing Māori to be the change agents required, enabling the primary production sector to re-establish cultural and social integrity. Without that the sector will face increasing challenges within both domestic as well as export markets and the demands of discerning consumers therein.

## Sustainable Export Trade Partnerships

As previously advised in this paper, Māori primary production and exports have grown exponentially over the last 10 years, and it is expected that the value of exported goods will rise from $870 million to in excess of $25 billion in national GDP by 2061.

Incorporating Māori values, principles and practises into sustainable trading partnerships is critical to that growth. At a localised level the premium value that can be appreciated via products that have a strong indigenous provenance story and brand has clearly been showing with companies such as Tohu Wines.

Despite this phenomenal growth in export value, Māori still suffer disproportionately across a range of socio-economic indices and inequality continues to prevail in areas of high deprivation such as the Far North and the East Cape regions. The East Cape especially also suffers disproportionately from climate change impacts.

Much of the inequality suffered within these communities is driven through a decline in biodiversity within these tribal regions which is synonymous of comments[716] recently made by José Francisco Calí Tzay[717], Special Rapporteur on the Rights of Indigenous Peoples last year.

## Trade Policies

New Zealand and the United Kingdom have agreed in principle the details of a historic Free Trade Agreement (FTA) and the Government has initiated new policy principles in the Trade For All Agenda[718].

Damien O'Conner and Secretary of State Anne-Marie Trevelyan from the NZ-UK FTA signing ceremony in 2022.[719]

Trade for All represents an opportunity for New Zealand to reevaluate its trade policy from a fresh perspective. It provides a chance to thoroughly examine the current state of trade policy and ensure that it delivers favourable outcomes for all citizens of New Zealand.[720]

Given the significance of trade to the country's economy, it is crucial that trade policies contribute to the well-being of all New Zealanders. To achieve this goal, the government engaged in extensive consultations with the public between August and October 2018. This collaborative approach aimed to gather diverse opinions and shape a Trade for All policy that would benefit the entire population.

As a result of these consultations, the establishment of a Trade for All Advisory Board was one of the outcomes. This board was tasked with offering an impartial evaluation of the government's trade policy by identifying and discussing key issues. Ultimately, their objective was to provide recommendations to the government on how to enhance the trade policy framework.

If this initiative is coupled to He kai kei aku ringa[721], the Crown-Māori Economic Growth Partnership strategy, this will advance Māori economic growth, Indigenous trade, and Māori interests in free trade agreements.

[716] https://press.un.org/en/2022/gashc4350.doc.htm

[717] https://www.ohchr.org/en/special-procedures/sr-indigenous-peoples/francisco-cali-tzay

[718] https://www.mfat.govt.nz/en/trade/nz-trade-policy/trade-for-all-agenda/

[719] https://www.rnz.co.nz/news/national/489338/the-nz-uk-free-trade-agreement-what-you-need-to-know

[720] ibid

[721] https://www.mbie.govt.nz/business-and-employment/economic-development/Māori-economic-development/he-kai-kei-aku-ringa-strategy-and-action-plan/

As detailed in the strategy:

Māori collectives and enterprises play a pivotal role in elevating the economic contribution of Māori individuals. They serve as catalysts for sustainable growth and leverage Māori's unique strengths. By effectively utilising Māori assets and people in ways that align with Māori values and approaches, these entities become vital channels for enhancing productivity. Investing in Māori enterprises, small and medium-sized businesses (SMEs), and self-employed Māori individuals becomes crucial in generating the desired economic growth.

BERL conducted research that involved modelling various scenarios to illustrate the potential benefits or costs to both the Māori economy and the broader New Zealand economy. This analysis aimed to shed light on the potential outcomes that may arise from different approaches, providing valuable insights for decision-making processes.

As part of their analysis, BERL also modelled a scenario of 'doing nothing,' which would result in a gradual decline or devaluation of the Māori asset base, estimated to be around $0.6 billion by 2040[722]. However, looking ahead, BERL's modelling suggests that an enhanced economic performance by Māori could potentially contribute an additional $25 billion to the national GDP by 2061, as referred to earlier.

It is important to consider that the Māori population is young and growing, emphasising the significance of investing in education and skills development at present. By equipping the next generation with the necessary tools and opportunities, we can empower them to realize their full potential. A key aspect of this investment is to improve socio-economic outcomes for Māori, which will play a pivotal role in reducing the unemployment rate and fostering long-term economic growth driven by Māori contributions.

The Comprehensive and Progressive Agreement for Trans-Pacific Partnership[723] (CPTPP) offers significant opportunities to advance Indigenous trade on behalf of the Ministry of Foreign Affairs.

An Indigenous perspective can support a shift in how trade is enacted. This would be values based and a relational exchange of culture, being trade that supports the underlying values of indigenous people and respect and protection of te Taiao – Nature. This can be built on a foundation of intergenerational knowledge and connection, and it will enhance sustainability of both primary production / export as well as the relationships themselves.

Mana becomes the centre or focal point of the trade delivering long-term benefits to all parties, their communities, and the land used in production.

Transformative change in setting new trade policy drivers can emerge from the adoption of Māori and intertribal trading principles. By addressing inequality and current imbalances

[722] He Kai kei runga - Strategy to 2040: Māori Economic Development Panel 2012

[723] https://www.mfat.govt.nz/en/trade/free-trade-agreements/free-trade-agreements-in-force/cptpp/

within the indigenous / non-indigenous trade dynamic a seismic shift can occur, and on the tide of change all boats will rise equally.

Export trade reform must shift far beyond the current rhetoric around the value of Matauranga Māori into trade principles and practises which truly support the sustainability of Papatūānuku, and premium value that can be derived from our unique provenance stories and indigenous brands.

These trading principles are inherent within the TAMPPS model, and these principles are shared across current indigenous networks globally. Internationally, attention is emerging with the UN and OECD on the value potential of indigenous knowledge, principles and practices, but these ancient systems need to be restored by indigenous communities first and foremost, if inequality is to be addressed.

When allowing non-indigenous trading nations to use indigenous principles and practices in changing export trade dynamics, there are potential risks that need to be mitigated.

## Key Risks

The key risk is cultural appropriation and exploitation. Indigenous knowledge systems are deeply rooted in the cultures, traditions, and identities of indigenous communities. Allowing non-indigenous entities to use these principles and practices without proper respect, understanding, and consent can lead to cultural appropriation. It may result in the exploitation of indigenous knowledge for commercial gain without benefiting or adequately involving the indigenous communities themselves.

Misrepresentation and distortion can also occur where Indigenous knowledge is often complex and deeply interconnected with specific cultural contexts. Transferring and adapting this knowledge to non-indigenous settings without a comprehensive understanding can lead to misrepresentation and distortion. The richness and nuances of indigenous principles and practices may be lost or simplified, leading to a shallow and inaccurate portrayal of indigenous knowledge.

Intellectual property rights and ownership is put at risk where Indigenous knowledge is often considered collective knowledge, belonging to the indigenous communities as a whole. Transferring this knowledge to non-indigenous entities may raise questions about intellectual property rights and ownership. It is essential to ensure that indigenous communities retain control over their knowledge and have the ability to determine how it is used and shared.

Loss of cultural integrity and erosion of traditional practices is a corner stone of colonisation and the use of indigenous principles and practices in non-indigenous contexts may contribute to the erosion of traditional practices and cultural integrity. When these principles and practices are extracted from their original cultural contexts, they can lose

their meaning and significance. This can lead to a commodification of indigenous knowledge, diluting its authenticity and impact.

At the core of the risk is the power imbalances and marginalisation that is ongoing globally. Allowing non-indigenous trading nations to use indigenous knowledge without proper safeguards and mechanisms for inclusion can perpetuate power imbalances and further marginalise indigenous communities. It is crucial to ensure that indigenous communities have agency and are actively involved in decision-making processes regarding the use and application of their knowledge. This requires creating mechanisms for informed consent, benefit-sharing, and equitable partnerships.

There is a long way to go in developing equitable trading regimes where the inequality and deprivation suffered by indigenous people can be addressed. However, as we see within the history of New Zealand and in the "golden years" of Māori agriculture and economic development, a true transcultural export trade regime was established.

This was far more than a proof of concept - it was proof of excellence. The research undertaken in the writing of this paper shows that a return to that historic model and its indigenous values and principles is more than just logical. Given the lack of sustainability and cultural / social licence to operate seen within the primary production sector at present and the breaches of 5 of the 9 planetary boundaries, it is critical to the sector's survival.

Indigenous knowledge and indigeneity itself are drawn from within the natural environment. The use of science in verifying the value and the depth of understanding within indigenous knowledge systems can create a starburst of advanced science capability and opportunity. As Albert Einstein once articulated, "We still do not know one thousandth of one percent of what nature has revealed to us."

Embarking on the change journey that is required will require a leap of faith, but the risk takers will gain the greatest reward. A ship is always safe at the shore, but that is not what it is built for.

Māori understand the life forces and energies that create the natural living world, which is often ridiculed in the science community, but this was understood by one of the greatest scientists of all time.  "Everything is Energy and that is all there is to it. Match the frequency of the reality you want, and you cannot help but get that reality. It can be no other way. This is not philosophy. This is physics." — Albert Einstein.

It is clear that we cannot solve our problems with the same thinking we used when we created them. Māori are willing to recalibrate the compass of primary production away from its current paradigm, knowing that this may [as it has in the past] bring challenges and scorn. However – as stated by Mahatma Gandhi, "First they ignore you, then they ridicule you, then they fight you, and then you win."

If industrialisation and commodification has caused the problems we face in Aotearoa, then the solution is indigeneity – connection, humility and respect for and of Papatuanuku.

## Determining Thoughts.

Nga Uri o te Ngahere Trust and the authors of this paper wish to acknowledge the support, trust and commitment shown by participants from across a number or rōpū in the compilation of this paper, including Crown Research Institutes, farming sector groups, Māori land trusts, whānau and hapū.

In some cases, participants articulated deeply personal recollections and experiences regarding the "golden years" of Māori economic development and the impacts colonisation had on their communities and on the whenua, the awa and the moana, when that model was systematically demolished post 1865.

As a think piece, this paper is designed to stimulate dialogue and hopefully collaboration across two worldviews [and Treaty partners] to create a more sustainable primary production outcome for Aotearoa, New Zealand.

The paper advances thinking around a new trans-cultural attribute that could be implemented within primary production, creating a much needed, positive and holistic paradigm shift. It has provided an honest appraisal of colonial impacts dating back to the early 1800s and it has incorporated some of the untold stories and memories of whānau from that era which have generated intergenerational colonisation trauma, which still impacts Māori society today. In listening to these recitals, it became evident that reconciliation is a journey not a destination.

The research undertaken on primary production in the 1970s identified that a more holistic and transcultural agricultural system flourished within that period, prior to agricultural industrialisation, commodification and the emergence of corporate entities which had a devastating impact not only on rural Māori communities but on family farming operations generally across New Zealand.

The loss of production diversification within the corporate model exacerbated an urban drift from remote Māori communities into the cities, leaving small landholdings vulnerable to consolidation and corporatisation. With the advent of industrial agriculture, external forces and a shift in values undermined sustainability, cultural cohesion, social cohesion and local biodiversity and it spurred a depletion of natural capital.

Consequently - industrial farming and commodification has created a cultural divide in primary production. It has increased vulnerability whilst decreasing viability for remote rural Māori land users.

As an after-effect, the sector has lost its cultural licence to operate and with the impacts seen and reported on in consecutive research reports over the last 10 to 12 years, it has also lost its social licence to continue to operate in its historic extractive manner. It is also out of sync with the current and advancing climate crisis challenges we face in Aotearoa.

Paradoxically - given the history of New Zealand and its colonial oppression, a return to traditional values and practises is now increasingly viewed across the sector as a logical way forward, in addressing the sustainability challenges and consumer preference shifts seen locally and globally.

Whilst Māori are both capable and willing to return to te Ao Māori land use practices, [noting that many never left], building collaborative models which enhance the uptake of indigenous land use principles and practises within nonindigenous producers requires us to identify entry points and logical intersects between some subsectors of primary production, that share some of the te Ao Māori values, and the TAMPPS model.

## Alignment

Symbiotic Agroecology aligns closely with te Ao Māori principles and practices [although it lacks indigeneity] and this provides a framework by which non-indigenous land users could engage with a TAMPPS model.

The organic primary production sector, which could be seen as a component of agroecology, has potential in creating a soft entry point or non-indigenous producers to engage with that model.

Across New Zealand changes are occurring and components of the te Ao Māori model are beginning to emerge, and there is an inquiry arising around what the underlying values of a te Ao Māori model are. Questions are being asked as to what an agroecology or regeneration nation would look like in the non-indigenous production sector.

Within Crown Research Institutes and Universities, a recalibration of thinking and research is slowly evolving. The research undertaken by Lincoln University detailed below is a case in point, with the modelling being led by Professor Pablo Gregorini, the head of Lincoln University's Centre of Excellence for Designing Future Productive Landscapes. "There is no farmer to my knowledge that purposefully says, 'let's ruin the environment so the townies get mad', or 'let's ruin the environment, so my kids won't be able to farm,'" he stated.[724]

In addition - Māori knowledge is developing, associated with "place," through intergenerational observation and connection, as articulated by food sovereignty researcher and family food farmer, Dr Jessica Hutchings, Ngai Tahu, Ngati Huirapa, Gujarati.

Questions are being asked on how to change our farming systems which starts with stepping back and reframing how we, as a nation, think about whenua - our land. The shift away from profit driven motives into more localised production systems is evolving, especially in remote and / or rural Māori communities. This aligns with the thinking in Lincoln University,

[724] https://www.stuff.co.nz/environment/climate-news/300891067/regeneration-nation-what-might-our-future-farms-look-like

“Land as a foodscape, a health-scape, a social-scape. A farm could be all of those things,” says Gregorini.[725]

Essentially – Pablo expresses a te Ao Māori world view which is based on whakapapa connection to whenua and its gifts.

Māori offer an esoteric lens with which to view these gifts. Like other indigenous cultures, Māori recognise links between healthy ecosystems (including its life-supporting food) and people’s cultural and spiritual well-being. “Māori knowledge is developed in place, through intergenerational observation and connection with the land. It’s about being co-producers and co-creators with nature. Not above nature, but a part of nature,”[726] says Dr Jessica Hutchings.

Looking ahead, farming-as-usual is just not going to cut it.

Seismic shifts are at play across Aotearoa. The pandemic re-instilled the value of locally grown food and gave a glimpse of what can happen when supply chains fail. The storm-led destruction across farmland and whenua Māori over 2022 and 2023 pressed home the urgent need to build climate resilience and adaptation into food production systems.

These shifts also bring opportunities. Climate change could make Aotearoa's future temperatures better for farming new crops, according to a new ‘Global Change and New Zealand Biosecurity’[727] report by Better Border Biosecurity.

Small and intensive organic and regen producers are increasing in number and value to their local communities. Regenerative grower Jenny Lux in her Rotorua-based organic farm epitomises this new movement where she grows more than 40 vegetable crops, microgreens and herbs for local households and food businesses. “It’s not just about marketing,” says Jenny, who’s also a director of organic certifier BioGro and a Soil & Health Association National Council member. “Organics has a long history and has a lot of research backing it as well.”[728]

Regen-ag and organics have similar values but their practices do not always align. With organics representing a commercial sector and regen-ag a broad approach to farming, it is difficult to compare the two as like for like. However, both movements are arguably tributaries of the same river. They both want to create healthier food-production systems.

One group, the regenerative agriculture farmers, say that the best way to improve soil health is to eliminate tilling, which allowed for the use of synthetic weedkillers, and the other group who are organic farmers believe that the most important practice is to eliminate the use of herbicides, which meant there had to be some tilling.

[725] ibid

[726] ibid

[727] https://www.b3nz.org.nz/global-change-and-new-zealand-biosecurity-report/

[728] https://organicnz.org.nz/magazine-articles/regen-and-organics/

Sustainable agronomist Charles Merfield says, “there is this interesting dichotomy, with both groups essentially claiming the moral high ground.”[1] The conflicting emphasis on no-till and no-spray techniques captures a fundamental difference between the regenerative agriculture and organic movements in New Zealand.

Most importantly, *one one* or soil is at the centre of it all. “All the stuff they’re doing is well known within the soil science and ecological sciences as ways of improving soil biology and soil health. And the science is pretty clear – reducing the intensity of tillage will improve soil health.”[729]

## Waharoa – the Gateway to Alignment.

Recognising symbiotic agroecology as a framework for alignment, regen-ag and organics can act as a gateway for non-indigenous producers into a TAMPPS model, with some organic growers becoming interested in practices that minimise soil disruption and maximise carbon capture, while some regen growers are making the leap to certification to capitalise on the commercial benefits.

With the effects of climate change upon us the regenerative movement is inspiring farmers to become more sustainable, and organics play the same role.

Eco-systems services and multifunctional landscape design systems are trending upwards in Aotearoa, and the more they emerge the closer they align to te Ao Māori values and practices. There’s demand – from the Government, from consumers and even parts of conservative society – for a more holistic approach. Gregorini and his research team are trying to build this[730] with their prototype systems at the Lincoln University research dairy farm.[731] This research asks: ‘how do we re-integrate food production back into our everyday landscapes and the places we live, reconnecting people to food for greater health and wellbeing?’

The answer sits within indigenous communities, traditional land use practices and within the TAMPPS model. The University hypothesises in its inquiry; “how might te mana, te mauri, o te whenua, o te wai, o nga taonga katoa be restored in a production context through management, planning and design?”[732]. Through this Model agriculture can be sustainable and ethical, so there is clear alignment.

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[729] https://organicnz.org.nz/magazine-articles/regen-and-organics/

[730] https://www.stuff.co.nz/waikato-times/news/123716197/miraka-dairy-company-and-lincoln-university-link-up

[731] https://www.stuff.co.nz/business/farming/126294145/three-new-dairy-systems-to-be-trialled-at-lincoln-university-demonstration-farm

[732] https://research.lincoln.ac.nz/our-research/faculties-research-centres/centre-of-excellence-future-productive-landscapes

The Centre of Excellence is constructed on three trans-disciplinary strategic research themes: Future Agro-ecosystems, Future Foodscapes for Health, Toitu te whenua.[733]

The integrated three themes enable ways of imagining and conceptualising new possibilities of developing wealth, well-being, and value from landscapes through modelling new ways of working and providing a practical expression of implementation pathways informed by parallel 'experimental markers' of different ontologies.[734] Whether the model is founded in indigeneity and a whakapapa connection to whenua is yet to be assessed.

The research does have a focus on processes, approaches, practices and technologies to reconnect, repair and regenerate te Taiao elements. Toitū te whenua[735], is their call to action to hold fast to the land and sustain it. Toitū te whenua, toitū te taiao, toitū te tangata, toitū te mauri ora – emphasises the interdependence of land, environment, people and all living things. The key elements including whenua, wai, mahinga kai and other natural resource taonga in their constituent ecosystems, catchments and takiwā (regions) – according to the Mātauranga Māori principle of `ki uta ki tai'.

Also, the research uses Agroecosystems Design[736] as an interdisciplinary scientific tool and practice to promote research and capacity building in the ideation and implementation of more productive, resilient, sustainable, and socially responsible agricultural systems.

However - there is an insufficient amount of supporting research, policy support, and low awareness and 'know how' on Agroecosystems systems implementation among farmers, councils, and researchers.

The research aims to develop Cultural Context Mapping (CCM), Cultural Context Analysis (CCA), Pluricultural Systems Analysis (PSA), Pluricultural Management Systems (PMS) into a seamless and digitised diagnostic, management and decision-making tool for modelling future productive landscapes[737] that are restorative and regenerative rather than extractive and abusive. But how this is utilised by Māori landowners is yet to be seen, given a current aversion to external interventions and digitalisation in many rural Māori communities.

Whilst this research and the model developed by Pablo and his team at Lincoln has significant merit, it is not founded in indigeneity or indigenous sovereignty.

[733] ibid

[734] ibid

[735] ibid

[736] ibid

[737] ibid

## Motuhaketanga- Food Sovereignty

Hua Parakore[738] as a food sovereignty initiative, is the most closely aligned to the TAMPPS Model. Hua Parakore reflects Via Campesina's seven principles of food sovereignty: [739]

- Food: A basic human right
- Agrarian reform
- Protecting natural resources
- Reorganising food trade
- Ending the globalisation of hunger
- Social peace, and
- Democratic control

Although at present there is scale missing regards the practitioners of Hua Parakore: Living indigenous food sovereignty, it has seen a huge increase in the movement. In 2022 it had a big online gathering where over 700 people engaged,[740] interested in Māori soil and food resiliency, and discussing Māori-led community-based solutions to restoring Māori food communities.

While scale is important, that needs to be monitored. Perhaps Jessica Hutchings contention is right when she states that, "small is beautiful." She says there's something wrong with our system and with our way of thinking if, as a nation, we produce food for 50 million people, but can't even feed five million people at home, because it goes off to export.[1] The founder of the Papawhakaritorito Charitable Trust, Hutchings teaches Hua Parakore and how to grow Kai Atua (pure food) for whānau or market gardens.

### A Case Study

As a point in case - the winner in the Peoples' Choice, Hua Parakore, and Peer-Reviewed categories for the Organic NZ Awards 2023 was Aunty's Garden[741] celebrating 20 years of growing delicious foods.

In Hawke's Bay, the Waipatu Marae boasts a unique garden looked after by Hanui Lawrence, fondly referred to as Aunty. Aunty's Garden is a wonderful and flourishing area that generously supplies fresh produce to both the marae's whānau and the surrounding community. For more than twenty years, Hanui has dedicated her care and attention to this garden, becoming an integral and cherished aspect of the marae's cultural heritage.

Having spent her formative years in Hawke's Bay, Hanui Lawrence's passion for gardening has been a lifelong affair. She inherited this love from her mother, who shared a similar

[738] https://jessicahutchings.org/what-is-hua-parakore/

[739] (Knuth, 2009):

[740] https://www.culturalsurvival.org/publications/cultural-survival-quarterly/honoring-our-soil-hua-parakore

[741] https://organicnz.org.nz/organic-week/organic-nz-awards-2023-winners/

fervour for tending to plants. It was during one of her moments of inspiration that the idea to create a garden adjacent to Waipatu Marae took root in Hanui's mind.

She envisioned a flourishing space that could abundantly provide fresh produce for the Waipatu whānau. From the depths of her creative imagination, the concept evolved from mere sketches on paper to a breathtaking landscape, complete with intricately designed pathways, resembling a masterpiece when admired from a bird's-eye view.

Over the years, Aunty's Garden has evolved into a cherished and significant space, not only for the Waipatu Marae's whānau but also for the broader community. This remarkable garden plays a vital role in providing fresh produce for the marae's kitchen, fostering a sense of togetherness among the whānau who gather there, and offering valuable insights into traditional gardening practices.

Hanui's dedication and expertise have been pivotal in preserving and passing down her knowledge and skills to community members, ensuring that the garden's legacy continues for generations to come. Beyond the marae, Aunty's Garden has had a profound impact, symbolizing the importance of sustainable and locally sourced food production. Its influence has inspired the creation of other community gardens in the region, with Hanui being sought after to share her wisdom and experiences with numerous interest groups. Her contribution has extended far beyond the confines of the garden, leaving a lasting impression on the wider community and promoting the values of self-sufficiency and environmental stewardship.

Aunty Hanui's unwavering commitment to Aunty's Garden has garnered recognition and admiration from the wider community. In 2021, her exceptional contributions to Māori culture and horticulture were honoured with the prestigious New Zealand Order of Merit.[742]

As Aunty's Garden marks its 20th anniversary, Aunty Hanui, at almost 80 years young, stands as a living testament to the power of community and the importance of preserving traditional knowledge and practices. Her enduring dedication to the garden has transformed it into a vibrant and meaningful space that not only provides fresh produce but also serves as an educational hub for younger generations and a source of inspiration for the entire community.

Aunty's Garden is a living legacy that will continue to thrive and nourish the whānau of Waipatu Marae and the surrounding community for years to come. The garden's abundance of vegetables is generously donated to Nourish for Nil[743], ensuring that nothing goes to waste and that those in need receive support.

Additionally, individuals who are able to contribute can visit the māra kai to pick their own vegetables and offer a kind or generous koha to support Aunty and her whānau in their efforts to sustain the garden's flourishing existence. Aunty Hanui's work exemplifies the

[742] https://www.nzherald.co.nz/hawkes-bay-today/news/celebrating-10-years-of-growing-delicious-food/BHTWBPNRDZB7FHMY2FHK5VLCSQ/

[743] https://www.nourishedfornil.org/

strength of community bonds and the significance of preserving ancestral knowledge for the betterment of future generations.

In so doing the key te Ao Māori principle of tau utuutu is met – reciprocity and giving back.

## Certification

As well as a food growing system, Hua Parakore is the first indigenous verification scheme for certifying organic kai. This is run by Te Waka Kai Ora[744] (National Māori Organics Authority) and supported by a network of growers. "I'm a proponent of the notion of organic regenerative," says Hutchings. "We get the poisons off Papatūānuku. We say no to GMOs on the whenua."[1] Hutchings says at heart it's about bringing kaupapa Māori back into food and farming in ways that restore and connect local food communities.

The phrase "Māramatanga Ko te Hua Parakore te huarahi o te māramatanga mai tawhiti" can be translated as "Hua Parakore is a source of enlightenment."[745]

Māramatanga refers to enlightenment, understanding, or insight. It represents gaining deep knowledge and comprehension of a subject or concept.

Ko te Hua Parakore refers to the Māori system and framework for growing kai in alignment with Māori cultural values and principles. Hua Parakore emphasises organic and regenerative farming practices, biodiversity conservation, cultural integrity, and sustainability.

Te huarahi o te māramatanga mai tawhiti means "the pathway to enlightenment from afar." This phrase implies that Hua Parakore provides a pathway or approach to achieve enlightenment, understanding, or insight in relation to food production and cultivation. It suggests that by embracing Hua Parakore principles and practices, one can gain deep knowledge and insight into sustainable and culturally aligned food production, even from a distance or in a broader context.

Overall, the phrase emphasises the significance of Hua Parakore as a means to attain enlightenment and understanding in the realm of sustainable and culturally connected food production. It highlights the transformative potential of adopting the Hua Parakore framework and principles to gain profound knowledge and insight in the context of agriculture and food systems.

Hua Parakore is a true kaupapa Māori system and framework for growing kai. While Hua Parakore shares some similarities with organic farming, it also has some distinct differences, noted in the following:

It is deeply rooted in Māori cultural values, knowledge, and practices. It integrates traditional Māori concepts, customs, and protocols into the food production process. This

[744] https://www.tewakakaiora.co.nz/

[745] https://stonesoupsyndicate.com/articles/hua-parakore-a-brief-history

includes honouring the relationship between people and the whenua, acknowledging the spiritual dimensions of food production, and respecting traditional practices such as tikanga.[746] In short – indigeneity.

Hua Parakore emphasises the interconnectedness between humans, the environment, and all living beings. It recognises the importance of nurturing the mauri of the land and ecosystems. The focus is not only on sustainable farming practices but also on holistic well-being and maintaining the balance of natural systems.

It acknowledges the whakapapa or genealogy of plants and seeds, venerating the ancestral lineage and connection to specific regions and communities. It prioritises the use of heirloom and indigenous seed varieties that have been passed down through generations.[747]

Hua Parakore places a strong emphasis on Māori self-determination, food sovereignty, and community control over food systems. It aims to empower Māori communities to regain control over their food production, distribution, and decision-making processes, reducing reliance on external systems.

It takes a holistic approach to food production, considering not only the environmental aspects but also the social, cultural, economic, and spiritual dimensions. Most importantly - it recognises the broader impacts of food systems on communities and seeks to address inequalities and promote social justice.

Overall, Hua Parakore goes beyond organic farming by integrating Māori cultural values and knowledge into food production. It aims to restore and revitalise traditional Māori food systems while fostering self-determination, sustainability, and community well-being.

As such, it aligns with and underscores the te Ao Māori Primary Production System – which can take this to scale.

Food sovereignty is a common element shared between Hua Parakore and TAMPPS. It is a concept that originated from the international peasant movement, La Via Campesina[748] and refers to the right of communities and nations to define their own food and agricultural systems.

It emphasises the importance of local control and decision-making over food production, distribution, and consumption, prioritising the needs and well-being of small-scale farmers, indigenous peoples, and local communities. Food sovereignty recognises that food is not just a commodity but a fundamental human right, and it advocates for sustainable and culturally appropriate food systems.

Soil sovereignty, another common element, focuses specifically on the rights and control over the land and soil. It recognises the crucial role of healthy and fertile soil in sustaining food production, environmental health, and community well-being. Soil sovereignty

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[746] MAI Journal 2012: Volume 1 Issue 2 pp 131-145

[747] ibid

[748] https://zw.linkedin.com/company/la-via-campesina

emphasises the need for sustainable land management practices, ecological stewardship, and local control over land use decisions. It is fundamental to mana motuhake and maintaining te mana o te whenua.

Within an Aotearoa and Māori context - indigenous people exercising their sovereignty over food and soil, require several key actions and changes to be initiated.

Firstly - The Treaty of Waitangi, a foundational document in Aotearoa, must be honoured and implemented effectively. This includes upholding the principles of partnership, protection, and participation, ensuring that Māori have an equal say in decisions affecting food and land.

There needs to be a genuine recognition and respect for the rights, knowledge, and cultural practices of Māori in relation to food and land. This includes acknowledging Māori as kaitiaki of their ancestral lands and valuing their traditional ecological knowledge.

Soil and Food Sovereignty in action[749]

Māori need equitable access to land and resources for food production. This has begun via addressing historical injustices, land confiscations, and fostering opportunities for land and resource ownership and control by Māori communities, but inequality and deprivation still prevails so here is much yet to do.

Māori must have the autonomy and agency to determine their own food and agricultural systems. This includes supporting Māori-led initiatives, building capacity within Māori communities, and fostering economic opportunities for Māori in the food sector. This is first and foremost an equitable resourcing issue. It includes access to development capital.

Policies and legal frameworks need to be developed or revised to support Māori food and soil sovereignty. This includes incorporating Māori perspectives and knowledge into food and agricultural policies, supporting traditional Māori food practices, and addressing issues such as land tenure and resource management which continue to be constrained via Government policies, regional councils and the Māori land court.

Building strong partnerships between Māori communities, government agencies, and other stakeholders is crucial for advancing Māori food and soil sovereignty. Collaboration can help in developing supportive initiatives, sharing knowledge and resources, and ensuring a holistic approach to food systems, but they must be Māori led.

Overall, achieving Māori sovereignty over food and soil in Aotearoa requires recognising and upholding Māori rights, addressing historical injustices, fostering self-determination, and

[749]https://commons.wikimedia.org/wiki/File:Keya_Wakpala_Garden%27s,_Mission,_SD_2019_(49721534596).jpg

collaborating in a spirit of partnership and respect. It involves empowering Māori communities to reclaim control over their food production, revitalise traditional practices, and promote sustainable and culturally appropriate food systems. Once done, non-Māori can engage within this model, utilising these principles and practices to achieve their own sustainability goals.

Whilst science, policy and resourcing are critical to advancing Māori soil sovereignty, the esoteric values that underpin Māori beliefs and land use practices need to be better understood. This includes recognising and honouring the intrinsic value and authority of Papatūānuku and the soil itself in Māori cosmology and cultural worldview. In Māori belief systems, the deity Hine-Ahu-One is considered the primordial ancestor of humankind, formed from the sacred clay or soil. Elevating the mana of soil involves acknowledging and respecting the spiritual and ancestral connections between Māori people, the land, and Hine-Ahu-One.

By elevating the mana of the deity of soil, Māori soil sovereignty recognises the interdependence and reciprocal relationship between people and the land - Whakapapa. It acknowledges the spiritual dimensions of land and soil, considering them as living entities deserving of respect and care. Elevating the mana of soil also involves restoring and maintaining the health and fertility of the soil through [in Pākehā terminology] sustainable land management practices, such as agroecology, organic farming, regenerative agriculture, composting, and traditional cultivation methods.

Māori soil sovereignty is about asserting Māori knowledge, values, and practices related to land and soil management. It emphasises the importance of Māori communities having the authority and autonomy to make decisions regarding land use, resource allocation, and agricultural practices. It involves reclaiming control over ancestral lands, fostering sustainable food production systems, and ensuring the preservation of traditional ecological knowledge for future generations.

## Nurturing

Indigenous women play a vital and significant role in the food sovereignty movement in Aotearoa. Their contributions are rooted in their unique perspectives, knowledge systems, and experiences as Indigenous women and the co-relation between whenua as land and the reproductive capability of women within the culture [the term 'whenua' possesses a dual meaning in that it can mean both land and placenta.].

Indigenous women often possess valuable traditional ecological knowledge passed down through generations. They hold knowledge about medicinal plants, seed saving, land management, and sustainable agricultural practices specific to their cultures. This knowledge is crucial for maintaining biodiversity, preserving traditional food systems, and adapting to changing environmental conditions.

Indigenous women are often at the forefront of seed preservation efforts[750], safeguarding heirloom and indigenous seed varieties that are essential for food sovereignty. They cultivate and protect traditional seeds, ensuring their availability for future generations. By doing so, they contribute to maintaining biodiversity, cultural resilience, and local food systems.

They also actively engage in food production, including planting, cultivating, harvesting, and preserving traditional foods. They are knowledgeable about local climates, soils, and growing conditions, and apply their expertise to sustainably produce food. Through their work, they contribute to community self-sufficiency, food security, and cultural continuity.

Indigenous women often assume leadership roles within the food sovereignty movement. They advocate for the rights of Indigenous peoples, promote traditional knowledge, and call for policy changes that support sustainable and culturally appropriate food systems. They play a crucial role in raising awareness about the importance of Indigenous food sovereignty and the unique challenges faced by Indigenous communities.[751]

They are instrumental in building networks, fostering community connections, and empowering others within their communities.[752] They create spaces for knowledge sharing, skill-building, and intergenerational learning. Their efforts contribute to the revitalisation of Indigenous food systems, the transmission of cultural practices, and the empowerment of Indigenous women and youth.

Overall, Indigenous women in Aotearoa play multifaceted roles in the food sovereignty movement. They contribute their knowledge, skills, and leadership to the preservation of traditional food systems, the promotion of sustainable practices, and the advocacy for Indigenous rights and self-determination. Their contributions are essential for nurturing resilient and culturally rich food systems that benefit their communities and the broader society.

This connection with nature and cultural landscapes fosters a sense of responsibility, stewardship, and guardianship. It guides sustainable land management practices that are aligned with Māori cultural values and aspirations. It also provides a framework for nurturing the health and fertility of the soil, as it is seen as a reciprocal relationship between humans and the natural world.

Ultimately, the connection with nature, spiritual awareness, and cultural understanding are integral to the holistic concept of soil sovereignty. It acknowledges the interconnectedness of humans, deities, and the natural world, and recognises the importance of nurturing and protecting the soil as a spiritual and cultural responsibility. By grounding soil sovereignty in these beliefs and practices, Māori communities strive to sustain healthy ecosystems, promote cultural continuity, and honour the mana of the land and its personifications.

[750] Francisco Calí Tzay, J. (2022). Indigenous women and the development, application, preservation and transmission of scientific and technical knowledge.

[751] ibid

[752] ibid

Indigenous cultivation and agriculture produce a pure product, a system to produce Kai Atua; that is, food from the deity, from the gods, for the gods. This means cultivating food that is considered sacred and fit for the gods or deities in Māori belief systems. This concept reflects the deep spiritual connection between Māori communities and the natural world, including the land, plants, and animals.

In Māori cultural understanding, Atua are seen as guardians and protectors of the land and its resources. Kai Atua is produced in a way that ensures the sustainability and harmony of ecosystems. It involves practicing regenerative agriculture, embracing traditional cultivation methods, and respecting the natural cycles of the land. This is guided by cultural protocols and customary practices. It may involve following traditional planting and harvesting calendars, observing rituals or ceremonies related to food production, and incorporating cultural knowledge passed down through generations.

Whakapapa (genealogy) plays a significant role in producing Kai Atua. Māori communities consider the lineage and origins of seeds and crops, ensuring the use of heirloom and indigenous varieties that are connected to specific regions and communities. By preserving and selecting seeds based on whakapapa, [eco-sourcing] the connection to the gods and ancestral knowledge is maintained.

This involves avoiding the use of synthetic chemicals or genetically modified organisms, as they are seen as interfering with the natural essence and spiritual significance of the food.

The goal of producing Kai Atua is to cultivate food that embodies cultural values, sustains the well-being of communities, and honours the spiritual relationship between humans, the land, and the gods. It is a way of acknowledging the sacredness of the food and the land and ensuring that the production process is aligned with Māori cultural principles and aspirations.

## The Decolonisation Pathway

Traditional food sovereignty provides a decolonising pathway for Māori in food production. A pathway for telling Indigenous stories with regard to food production. It involves challenging and dismantling the dominant narratives and systems that have historically marginalised Indigenous peoples and their perspectives.

This includes providing access to education, resources, and opportunities for Indigenous individuals to become leaders and decision-makers in the field of food production. Community-led initiatives and networks enable Indigenous communities to share knowledge, support each other, and collectively address the challenges they face.

Kia Whakatōmuri te Haere Whakamua - Reimagining primary production based on traditional models of the past includes the use of a decolonising pathway which involves challenging and transforming the dominant food systems that perpetuate inequality, exploitation, and environmental degradation. It requires envisioning and implementing

alternative models of food production, distribution, and consumption that prioritise ecological sustainability, cultural integrity, and community well-being.

Indigenous food systems can provide valuable insights and solutions that promote resilience, biodiversity, and social justice i.e., Earth Systems Boundaries. Looking to Indigenous wisdom and solutions in times of climate, food, and soil crises is important for several reasons. Resilience and adaptation are required, and Indigenous knowledge and practices have often demonstrated resilience and adaptability in the face of environmental challenges. By drawing on Indigenous wisdom, we can learn from sustainable practices that have stood the test of time and are well-suited for local ecosystems.

Traditional holistic and ecological approaches capture Indigenous perspectives which emphasise interconnectedness and the importance of viewing the environment as a whole. Indigenous knowledge systems offer holistic approaches that consider the intricate relationships between humans, the land, and other living beings. Such approaches can help address the complex interplay of climate change, food security, and soil health.

Cultural preservation and Identity are critical within this process. This means embracing Indigenous wisdom and solutions which ensures the preservation and revitalisation of cultural heritage and identity. Food production and traditional practices are deeply intertwined with cultural traditions, spirituality, and community cohesion. By valuing Indigenous knowledge, we honour and support the continued existence of diverse Indigenous cultures.

Kaitiakitanga or Environmental Stewardship underpins Indigenous wisdom which emphasises the importance of sustainable land management, biodiversity conservation, and the protection of ecosystems. In times of environmental crises, Indigenous approaches can provide valuable insights and innovative solutions for mitigating and adapting to climate change, protecting soil health, and ensuring the long-term sustainability of food systems.

Therefore, a decolonising pathway to telling authentic Indigenous stories in food production centres Indigenous knowledge, self-determination, land sovereignty, community empowerment, and alternative models of food systems. Looking to Indigenous wisdoms and solutions in times of crisis acknowledges the value.

## Amalgamating te Ao Māori Principles and Practices

If Symbiotic Agroecology is used as the overarching framework for integrating two world views into a new primary production model, it will act as a korowai for non-indigenous producers to enter into a traditional values-based system.

Bringing indigeneity into organic food production in Aotearoa New Zealand appears to be a logical place to begin. This would further develop the bi-cultural partnership between Māori organic interests and non-Māori organic producers. Thus - this intersect may the most

appropriate and stressless entry point for non-Māori into an indigenous primary production system such as TAMPPS.

On a deeper inspection, Organics Aotearoa New Zealand (OANZ)[753] and te Ao Māori share some common principles and practices that align in the context of organic farming and sustainability. Some ways in which OANZ's key principles can align with te Ao Māori principles and practices follow:

Both OANZ and te Ao Māori emphasise the concept of kaitiakitanga, which involves responsible guardianship and stewardship of the land, water, and natural resources. Organic farming practices promoted by OANZ, such as regenerative agriculture principles, biodiversity conservation, and sustainable land management, align with the principles of kaitiakitanga.

Te Ao Māori recognises the interconnectedness and interdependence of all living beings. Similarly, organic farming principles endorsed by OANZ[754] prioritise biodiversity, ecological balance, and the recognition of the intricate relationships between humans, plants, animals, and the environment. Both approaches acknowledge the importance of understanding and honouring the whakapapa or genealogy of all living entities.

Manaakitanga refers to the practice of showing care, respect, and hospitality towards others and the environment. OANZ's principles of promoting organic farming, which prioritise soil health, animal welfare, and sustainable practices, align with the concept of manaakitanga. Both OANZ and Te Ao Māori recognise the importance of nurturing and caring for the environment to ensure its well-being for future generations.

Te Ao Māori is guided by tikanga, which are customary protocols, practices, and values. OANZ's principles, such as advocating for organic certification, education, collaboration, and market development[25], align with the concept of tikanga by promoting transparency, integrity, and adherence to established standards within the organic sector.

Both OANZ and Te Ao Māori emphasise the significance of relationships and connections. OANZ's focus on collaboration, networking, and community-building within the organic sector aligns with the principle of whanaungatanga. Both approaches recognise the value of fostering strong relationships, knowledge sharing, and collective action to promote sustainable practices and community well-being.

In a similar manner, the principles of Symbiotic Agroecology and Organics within New Zealand share common goals and values in promoting sustainable and regenerative agricultural practices.

Both Symbiotic Agroecology and OANZ emphasise the importance of biodiversity conservation in agricultural systems. Symbiotic agroecology recognises that diverse ecosystems with a variety of plants, animals, and microorganisms contribute to ecological

[753] https://www.oanz.org/

[754] https://www.oanz.org/new-blog/4-guiding-principles-for-organic-farming

balance and resilience. Similarly, OANZ promotes organic farming practices that prioritise biodiversity conservation, including the protection of native species, the use of diverse crop rotations, and the preservation of natural habitats.

Symbiotic agroecology and OANZ both prioritise soil health and regeneration. Symbiotic agroecology recognises the central role of healthy soils in supporting plant nutrition, microbial activity, and overall ecosystem vitality. OANZ promotes organic farming methods that prioritise soil building, such as composting, cover cropping, and reduced tillage, to enhance soil fertility, structure, and biological activity.[755]

Both symbiotic agroecology and OANZ recognise the importance of ecological balance in agricultural systems. Symbiotic agroecology seeks to foster harmonious relationships between plants, animals, and the environment, avoiding the use of synthetic inputs that disrupt natural processes. OANZ's principles of organic farming align with this approach by emphasising the use of natural inputs, biological pest control, and cultural practices that maintain ecological balance.[756]

Symbiotic agroecology and OANZ promote community engagement and knowledge sharing. Symbiotic agroecology recognises the importance of farmer-to-farmer networks, indigenous knowledge systems, and participatory research in advancing sustainable agriculture. OANZ facilitates collaboration and networking among organic farmers, providing platforms for knowledge exchange, training, and the sharing of best practices[757]. So, they have strong commonalities.

Symbiotic agroecology and OANZ both prioritise resilience and adaptation in agricultural systems. Symbiotic agroecology seeks to create resilient farming systems that can adapt to environmental changes, pest pressures, and market fluctuations. OANZ promotes organic farming methods that enhance system resilience, such as diversified cropping systems, water conservation, and climate change mitigation practices[30].

Moving beyond theoretical integration and into pragmatic execution is critical to success and change implementation, and finding existing interfaces therein is essential. In their strategic development planning OANZ have highlighted an objective of the implementation and uptake of Hua Parakore support.  It states its intentions to; "link with the initiatives that the Māori Organic sector organisation Te Waka Kai Ora are working on, including the Hua Parakore organic vision – which establishes a Māori worldview with the organic worldview."[758]

Further to; they are creating an organic farmer extension programme stating they intend to develop an Extension Programme Working Group[759], with an additional OANZ Board

[755] https://www.oanz.org/organic-farming-practices

[756] ibid

[757] https://www.oanz.org/organic-extension

[758] ibid

[759] ibid

Advisory Group to oversee the pan-Sector extension planning and application processes. The first step is to identify first-phase funding options, including:

- Confirm Participation and identify those organisations and groups that want to collaborate.
- Clarify desired roles and relationships in an Extension programme.
- Determine needs across sectors through additional engagement.
- Support farmers to align with Government policy on GHG, water quality and biodiversity expectations.

There are therefore clear pathways for kaupapa such as Hua Parakore to scale up participation within the primary production sector, and for the organics movement to integrate with indigenous systems of knowledge and for non-indigenous land users to interface with the te Ao Māori based production Model.

Based on the outcomes that were achieved using a kaupapa Māori agricultural development model in the mid-1800s, the benefits of such an approach are very clear. Central to that model was [and is] manaakitanga. To the whenua, to the people, to society.

This practice of manaakitanga is best evidenced by the statement of Hōhaia Collier (Ngāti Porou, Te Whānau Apanui), Paraparaumu,[760] who states: We took a lot of food onto the marae [traditional meeting ground], there were always activities at the marae and other families would do the same … and to other homes … The old man was a great fisherman and diver, and he would go down to the beach and he went past about maybe four or five houses. He had a packhorse with all of his kai on it and he would drop kai off on the way down, pick up a side of beef or something on the way back along with his bag of kaimoana. So, there was that kind of thing, it was like a social activity I suppose, you just called in with whatever he had and dropped off and swapped for something else."[22]

This memory reiterates the narrative at the beginning of this paper about the lifestyle and manaakitanga within East Coast villages in the "1970s Model". The social cohesion, cultural identity and the productivity in these villages in that era, where a broad range of diverse terrestrial and aquatic resources were protected, shared and utilised within a mosaic of enterprises that were founded in the "golden years" entrepreneurial capability developed by Māori within only a short period of settler contact in the 1800s.

Within recent inquiries such as the Tairāwhiti / Gisborne forestry slash report, titled "Outrage to Optimism",[761] the report warns of a perilous situation where the government has five to 10 years to turn the situation around, with Ngāti Porou being at risk of becoming "homeless and landless". In that Report the term "mosaic of land use" has again emerged, suggesting that this can provide a pathway forward as communities and the primary production sector struggles to respond to the climate crises evident across Aotearoa. In a

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[760] (Te Waka Kai Ora, 2011b, p. 17)

[761] "Outrage to Optimism" (2023) Ministerial Inquiry into Land Uses in Tairawhiti and Wairoa

similar manner, rural community responses to Covid 19 and increasing economic head winds has shown that te Ao Māori principles and practices in land use and community response are not only viable but are critical.

## Final Conclusion

A Te Ao Māori Primary Production System can address multiple challenges currently faced by the sector and it can provide the change agency needed to bring primary production back within all of the 9 planetary boundaries and in so doing the sector can regain its cultural and social license to operate. More importantly, this traditional land use model addresses concerns and recommendation made recently regards Earth Systems Boundaries which speak to issues of justice.

TAMPPS achieves growth in social, environmental, cultural and economic capital [SECE] in a balanced manner and the premium value associated with the sale of produce which genuinely exemplifies a SECE brand is immeasurable, as consumers make discerning choices driven by a need to protect and enhance all of the SECE values that underpin such a Model.

Whether the adoption of a traditional land use model is driven by the need to restore balance and sustainability within primary production, or increased resilience within climate change challenges, one other overriding imperative stands out. Economic survival.

Supermarkets have begun to put farmers on notice they will have to provide farm specific emissions data. By example - Countdown has committed to reduce supplier emissions by 90% by 2030. Suppliers made up 98% of Countdown and Woolworths New Zealand's carbon footprint in the 2022 financial year,

Last year Countdown launched a pilot program with 55 suppliers in Australia and New Zealand across six high emission categories of products on shelves, including 13 of the supermarkets largest New Zealand suppliers. The grocer used the GWP100 metric (which averages methane's heating impact over 100 years) to measure its footprint, because it was what the Greenhouse Gas Protocol required.[762]

Also - British supermarket Tesco has advised its suppliers to report their carbon footprints and to commit to a net-zero future this year. Almost half of Tesco's emissions came from farming, and as it sourced food from New Zealand, a large part of its emissions were generated here[763].

In a like move, Nestlé, the world's biggest food manufacturer has now ditched its policy of buying carbon offsets to make certain brands "carbon neutral".

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[762] https://www.stuff.co.nz/business/farming/132514365/supermarkets-put-farmers-on-notice-they-will-have-to-provide-farm-specific-emissions-data

[763] https://www.stuff.co.nz/business/farming/130784599/tescos-warning-to-new-zealand-farmers

Instead, Nestlé will concentrate on reducing its actual carbon output by focusing on its own emissions and that of its supply chain. Nestlé has joined a growing list of Fonterra customers who are very interested in the carbon footprint of New Zealand milk. Nestlé has just launched a plant based, non-dairy, vegan certified KitKat.[764]

The push / pull effects that impact primary production economics are increasingly being influenced by consumer demands for transparency, sustainability and climate sensitivity. This will require a recalibration of the connection producers have with whenua and how to work within a more symbiotic relationship. It will require behavioural change.

This research suggests that the driver of success within a transformative model, in behavioural change and in building strength in diversifying land use, primary production and eco-systems adaptation, to achieve intergenerational sustainability, is indigeneity. It requires a shift away from exploitation towards service, and a humility born of connection to te Taiao and the natural living world.

It begins with taking an individual stand on transfiguration, which collectively spurs local, then regional and then a national reformation of land use and primary production, taking us back to the success model which was the foundation of agriculture and horticulture [and agricultural export] here in Aotearoa in the "golden years" of Māori economic development.

**Speculative Insights**

In tracking the research undertaken we note that we have identified and discussed a myriad of intertwined topics including: The key differences and commonalities of Pākehā and Māori societal structure, governance and cultural motivation, and Western agricultural systems and Māori horticultural and agricultural systems.

We have researched and discussed the early successes of Māori in the "Golden Age" of agriculture in the 1830s to late 1850s, why it was successful and why it was so short-lived.

We have provided an in-depth look at the other side of history with the New Zealand land wars, how Māori were attacked, destabilised, and supressed while their whenua and resources were inexorably depleted by colonial government, judicial and business interests.

The research showed that this continues to be the case today and where once muskets and cannon were used, they were replaced with courts and legislation, and now Māori face the next battle of protecting their indigenous knowledge and wisdom within a new post-modernist phase of raupatu.

The findings provided insight into the renaissance of Māori culture, education and economics and shown that the entrepreneurial spirit in evidence in the 1800s continues today, especially when coupled with a re-established cultural identity and utilisation of indigenous knowledge systems.

[764] https://www.stuff.co.nz/business/farming/advice/300929079/how-nestls-climate-change-decision-could-affect-new-zealand-farmers

Clearly - the business-as-usual model of intensified and industrialised primary production, not just in New Zealand, but across the globe has led us into the sustainability emergency we all now face.

We know that there must be a new model implemented, where indigenous values and knowledge systems can lead change, and where western science can improve its impact if it follows that lead.

If we are to adapt to shifting climatic conditions using traditional practice, then indigenous knowledge must be privileged, and indigenous people must be respected and supported if a just transition into the changing environment is to be realised.

The Paper proposes the (re)establishment of Te Ao Māori Primary Production Systems, having evaluated the benefits and risks therein and it has provided a shared vision where not only is adaptation possible, but, through education and greater understanding and application of indigenous knowledge systems, a truly sustainable future can be achieved.

The research shows that, even though Rangatahi are struggling in the face of so much pressure, they are the change agents within a multi-generational recalibration. In a time when social, environmental, cultural and economic stressors are creating a milieu which seems truly bleak, they are searching for identity, meaning and a future, and they are crafting this as the ones who will inherit this current legacy.

They are grounded with indigenous principles and practice and they are creating a new ambiance because they have begun to decolonise their thinking, influence power structures, and demand a better future for their children – mana mokopuna.

No reasonable person, who has studied the existential stressors we face globally, could say we do not have to act and act fast in accepting these challenges, and then recalibrate primary production systems within Aotearoa.

In the recital by Justice Sir Joe Williams in the front section of this paper, he referred to a traditional navigator, Mau Pialug, who re-established this ancient art form. As he repeatedly asked of his student Nainoa Thompson when he was learning this lost art, "*Now can you see the island?"*

When Nainoa finally responded affirmatively, understanding that visualisation of the destination is critical to the outcome, Mau then said, "*You must keep that island in your mind, for you are the navigator. There will be heavy seas and storms and dark starless nights on your journey. You will be tested. You will be safe if you keep that island in your mind. But if you lose that island in your mind, you will die, and your crew will die with you*."

In recalling again that Māori Law Society conference in 2015, Justice Williams said thereat, "My challenge to you, Te Hunga Roia Māori o Aotearoa, is to have that island in your mind when you embark on your own leadership journey".

As we navigate a new direction for primary production here in Aotearoa, we should consider this carefully. So – now can we see the island?

The whakatauākī provided below comes from a Ariki Tohunga, Tamihana Winitana of Tūhoe / Tainui descent, who was the patron of Ngā Uri o te Ngahere Trust.

The whakatauākī speaks of humility and connection, it provides the reader with an insight into the essential foundation of whakapapa and connection to whenua, and it articulates the unique distinction between tangata whenua and Pakeha relevant to how each society engages with the Land - indigeneity.

**<u>Whakatauākī</u>**

'Komuruhia te poioneone kia toe ko te kirikiri kotahi.
Ahakoa tana kotahi, e honoa ana ia ki te whenua,
mai I te whenua ki te rangi, te rangi ki te whenua,
ki te maunga, ki te moana, ki te tangata e tu ake nei;
ko au tēnei te kirikiri nei.'

*'Rub away the earthen clump to leave but one lone grain of dirt;*
*whilst it is but one yet is it inextricably joined to the land,*
*from the land to the sky, the sky to the land, to the mountain,*
*to the sea, to the people;*
*It is I who is that one lone grain.*

Tamihana Winitana
Patron
Nga Uri o te Ngahere Trust
Tūhoe / Tainui

# Post Research Outcomes

## Implementing the TAMPPS Model

At the culmination of the research, three regional projects [case studies] were initiated with participants who had engaged in the research kaupapa.  Within those, the drivers of land use diversification and the application of the TAMPPS Model were assessed.  These were noted as being significantly different from non-Māori landowners and reflected a change of focus in most [if not all] of the whenua Māori landowners consulted with during the think piece compilation.

The three projects were:

1. Tairāwhiti – The Waiapu catchment.
2. Torere, Opotiki – A whole of rohe assessment.
3. Te Arawa – 55 land blocks with a representative cluster of 3 contiguous whenua Māori land holdings.

**Tairāwhiti.**

Extensive research and land use diversification analysis has been conducted in the Waiapu catchment over the last 5 years resulting in several development options being proposed. With the impact of two cyclones in quick succession, and with the intensity of Cyclone Gabrielle, everything changed.

**WAIAPU FLOOD PLAIN CYCLONE GABRIELLE[765]**

Massive erosion events, whole river systems changes and extensive river flats [which were targeted for beef and lamb fattening] were completely wiped out.

February 2023 saw records tumble for river flood levels, with the Waipaoa River peaking at 12.8m, the highest since records began; the Waiapu at 8m, which is the highest since 1975; and the Te Arai at 4.9, the highest since 1983.

Over a Sunday and Monday Cyclone Gabrielle brought 547mm to Raparapaririki (Waiapu) the highest rainfall in the district, and 500mm to Mangapoike.  Both SH2 and SH35 were extensively damaged with over 40 bridges and roadways washed out.

As a result of this devastation the focus in the region has shifted even more to food security, provisioning, shortening supply chains [local inputs] and climate change adaptation.

[765] https://www.farmersweekly.co.nz/news/ruatoria-learns-gabrielles-lessons/

**Extensive damage to roading networks has occurred across the whole region.**[766]

It will take years to rebuild the region's roading networks and on farm assets lost in the flooding. Until infrastructure fragility is resolved and the damage to pasture and hill country is addressed [where in one valley alone over 1400 slips were recorded,] then normal production systems are not likely to resume. However – planning is now more important than ever. To build back wiser, based on intergenerational knowledge and connection to whenua.

The cyclone[s] have shown how quickly land use practice and planning can change, so future proofing the land diversification is critical. This is best done using the knowledge of the Tupuna who knew where to locate Marae, māra kai etc. Recent modelling conducted by NIWA, which shows the frequency of long duration la Nina weather patterns are going to occur, means decision making on land use now has to be driven by climate change prediction and adaptation modelling.

[766] SGT Vanessa Parker/NZ Defense Force, CC BY 4.0 <https://creativecommons.org/licenses/by/4.0>, via Wikimedia Commons

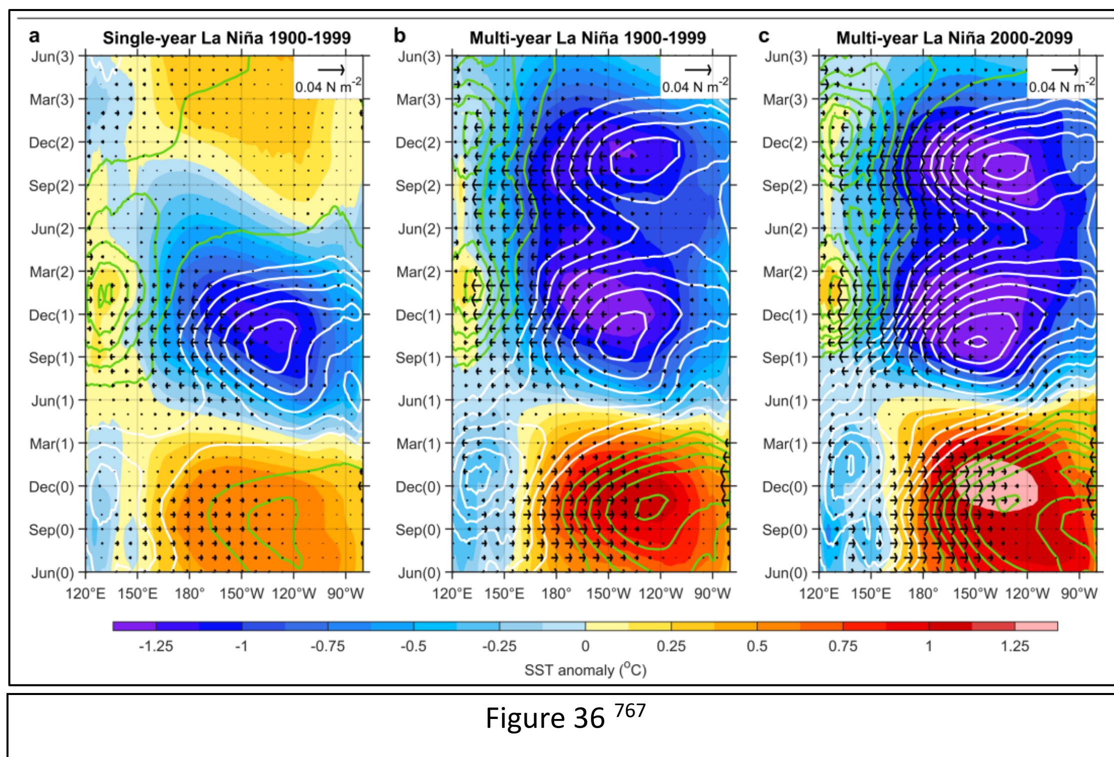



Figure 36 [767]

**Extended Data (Figure 36)**

Temporal evolution of single-year and multi-year La Niña events in models. Time–longitude evolutions of equatorial (5° N–5° S average) SST (°C; colouring), SSH (m; contours; positive in green and negative in white, with an interval of 0.01 m) and surface zonal wind stress (N m−2; vectors) anomalies, composited for single-year La Niña events in 1900–1999 (a), multi-year La Niña events in 1900–1999 (b) and in 2000–2099 (c), respectively, in the selected models. Models simulate reasonably well the observed multiyear La Niña evolution.

With this data to hand, the planned implementation of the TAMPPS Model in this region will therefore need to accommodate these increased frequencies, and the execution of the Model can only begin once the initial recovery phase is complete – which is likely to be in 2024.

**Recovery Enterprises**

The drivers of land use and diversification decision making has now shifted. Ecological and climate impacts are key determinants within the local communities. Food security [provisioning] infrastructure resilience, corporate forestry companies vacating forests and land blocks [and the risk and liabilities that creates] all feature in conversations around the pathway forward.

To address these concerns thought leadership [Rangatiratanga] and 25-year planning has begun, in which traditional knowledge is featuring strongly, and in a proactive manner,

[767] https://paper.sciencenet.cn/htmlpaper/2023/7/202372813184069583825.shtm

**Recovery Enterprise** development has become a focus. This looks at how local enterprises can be established that will address issues such as silt remediation, the production of organic mulch [using forestry slash] the production of bio-char, the local use of sea weed and organic waste in fertilizer production, and the establishment of new mixed pasture models [which include indigenous species] are being assessed to pivot in local land use, to transition into a new dimension.

The old 'business as usual model' is being revamped in the realisation that that model was less than optimum and an imported system in the first place. And the role and function of science within this new paradigm is also being assessed.

These elements of a new whenua Māori land use system fit within the TAMPPS model, and the planning [and science interface assessment] which is being undertaken in 2023 will be implemented in 2024 and onwards. The research data being compiled [both traditional and western] will drive the development of case study production across the region, the business cases that are needed for investment into the new model and most importantly, the change in policy drivers that are needed to ensure a just transition occurs – as was promised within the Paris accord.

The Tairawhiti region provides an opportunity to develop this new land use model at scale.

**Torere, Opotiki.**

In Torere, the key driver to adopting a TAMPPS Model is the loss of native biodiversity and an assessment of the stressors in the rohe that are impacting on the Awa, on cultural reserves and on wāhi tapu.

Planning has begun to convert the largest production block [dairy] in the rohe to a TAMPPS Model. The picture below details the key stressors identified in the rohe.

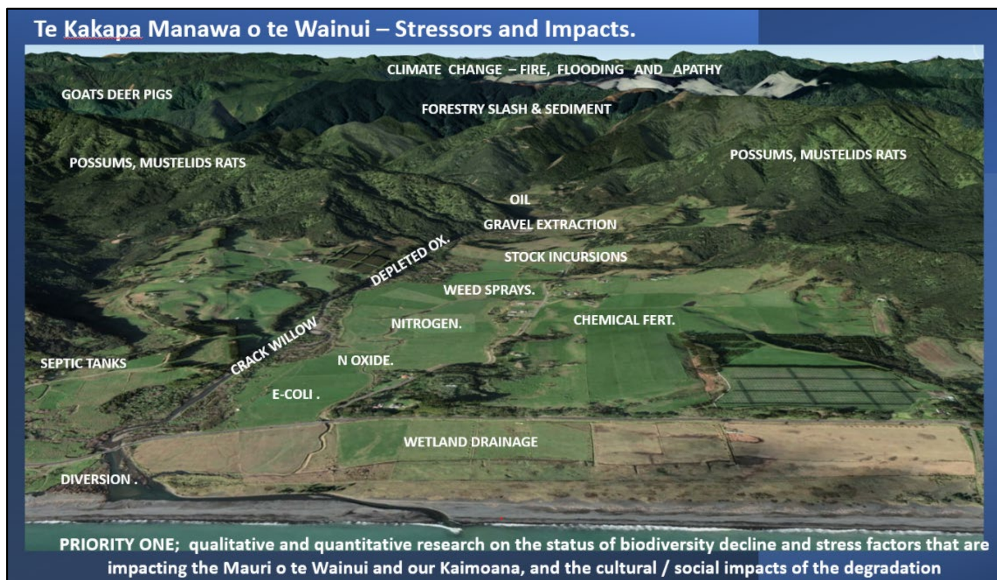
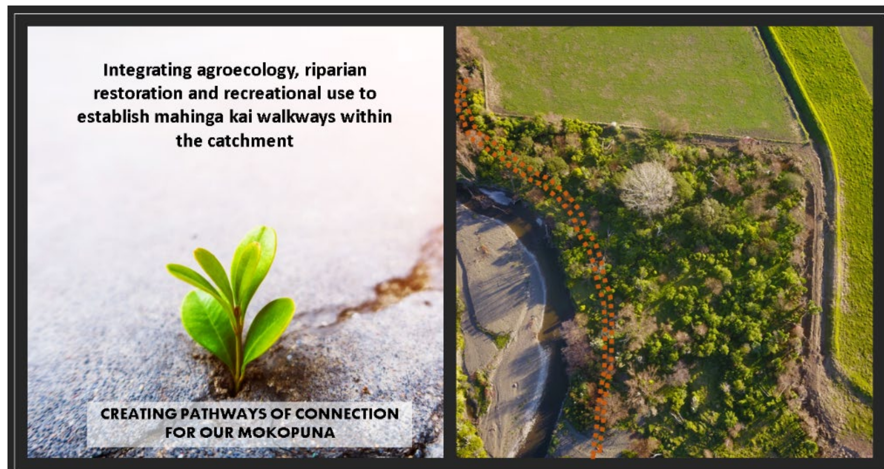



Figure 37[768]

[768] Ngā Uri o te Ngahere Trust 2023

Converting to a TAMPPS Model across the dairy platform acts as a motivator for other landowners to follow this process, now that the impacts of these pollutants and stressors have been articulated.  Diversification in this instance is once again being driven by the need to vacate commodity production farming and to refocus on local provisioning and add value processing [ e.g., smaller scale milk production and unique organic cheese production, restoring heritage fruits, rebuilding māra kai and mahinga kai resources, and riparian planting annexed to new natural animal health remedies].




Pathways of connection[769]

This refocus has been intensified by COVID as well as climate change impacts.

## Land Art Visualisation – for the Wainui Valley, Torere Opotiki

Weaving a Korowai for Papatuanuku - Land art and diversification[770]

[769] Ngā Uri o te Ngahere Trust 2023

[770] Tompkins Conservation https://www.youtube.com/watch?v=Z5YPnA6OqvU

Land use diversification offers opportunities to work with the natural contours of the whenua to create a mosaic of crops and pasture that paints a tapestry across the catchment.

Contour planting reduces sediment run off and allows for the right plants / pasture to be planted in the right locations, to capture any fertiliser run off and e-coli from animal production.

Contour Planting[771]

**Te Arawa.**

In te Arawa, the focus is even stronger regards provisioning [with excess to sell.] The three blocks which are initiating planning around a conversion to a TAMPPS Model are looking to integrate these blocks into a single contiguous Unit that will provide a range of benefits for the shareholders including:

1. A whare wānanga [for teaching on te Taiao and for use as a wellbeing centre]
2. Meat and fibre production – provisioning with excess to sell.
3. A native plant nursery.
4. An extensive māra kai.
5. Riparian planting and wetland restoration.
6. Heritage fruit tree plantings and,
7. Papakainga housing.

This is far removed from the conventional sheep, beef or dairy operations run on this whenua in the past. It shows [as with other whānau land blocks and Incorporations] that there is shift away from the industrial agricultural model – and a move back towards respecting the whenua and to providing for the wellbeing of shareholders and whānau first and foremost.

[771] ibid

These case studies have shown that the TAMPPS Model meets the needs of whānau who are reconnecting with their lands.  It also shows a clear distinction between Māori land use decision drivers and non-Māori.

As challenges such as climate change, cost of living, housing supply shortages and pandemic risks continue to evolve, more and more whānau are shifting their thinking to provisioning. Wealth creation and land / resource exploitation is no longer even in the minds of those who are making this shift.

**THE TE ARAWA MODEL.**

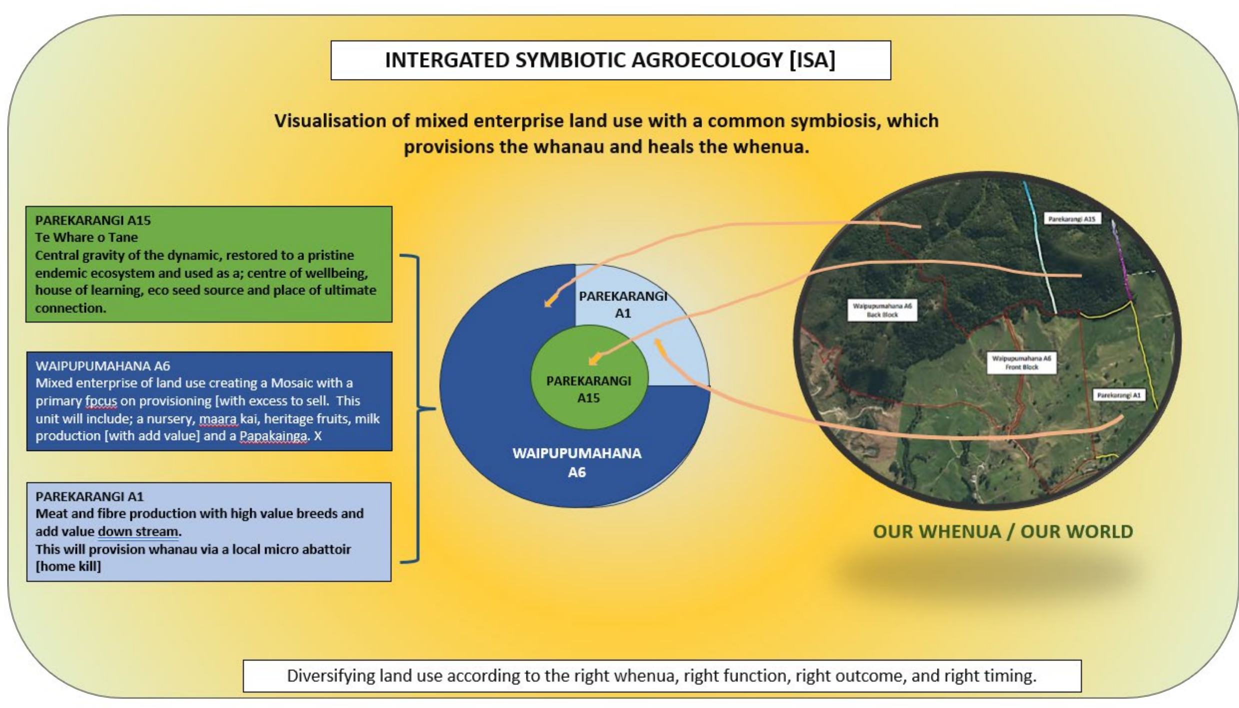



Figure 38[772]

A further [cultural] distinction and consistent with the re-emergence of traditional principles and practices is the recognition of the value in using the Maramataka in agriculture and in daily lives.

In Te Ao Māori, the concept of whakapapa and the influence of Atua on the mauri of all things are deeply interconnected. The Maramataka, or lunar calendar, plays a spiritually integral role in various aspects of Māori life and culture. Understanding the Maramataka is essential for aligning daily activities, ceremonies, and events with the natural rhythms and cycles of the environment and the cosmos.

Distinct from non-Māori, Whakapapa is the foundation of Māori cosmology, which traces genealogical relationships between all living beings, including humans, plants, animals, and natural elements. The Maramataka reinforces this interconnectedness by guiding people to

[772] Ngā Uri o te Ngahere Trust 2023

observe and understand the movements and influences of celestial bodies like the moon, stars, and planets. Each element of the natural world has its own whakapapa, linking everything together and reinforcing the concept of unity and kinship with all living beings. This is far more holistic way of thinking and planning than that used by non-Māori.

Atua are significant spiritual beings in Māori culture, and they are believed to have a profound influence on the mauri of all things. The mauri represents the life force or vital essence that animates all living entities, and the atua are considered guardians and protectors of this life force. The Maramataka helps to identify specific lunar phases and celestial events when the influence of certain atua may be stronger. People are returning to the use of this knowledge to engage in activities, rituals, or ceremonies that acknowledge and honour the atua, seeking their guidance, blessings, and protection.

in the case study areas, one of the practical applications of the Maramataka is in agriculture and food gathering. Māori traditionally relied on the lunar calendar to determine the most auspicious times for planting, cultivating, and harvesting crops. Different phases of the moon were associated with specific activities. For instance, the new moon (Whiro) was a time for planting root crops, while the full moon Ōturu (full moon) was significant for harvesting and storing food. By aligning their agricultural practices with the Maramataka, Māori communities are again looking to optimize their chances of successful and bountiful harvests.

The knowledge of the Maramataka is deeply rooted in the wisdom of the Tupuna. It has been passed down through generations, enriching the spiritual and ecological understanding of the world. The Maramataka reflects the accumulated knowledge and observation of the natural environment and the connection to the spiritual realm.

Thus - the Maramataka is an essential and spiritually integral aspect of Te Ao Māori. It underscores the interconnectedness of whakapapa, the influence of Atua on the mauri of all things, and the harmonious relationship between humans and the natural world. By observing and living in accordance with the Maramataka, Māori communities who are wanting to engage in the TAMPPS model and again maintaining their cultural traditions, ecological wisdom, and spiritual connection with the universe.

**Case Study Summary.**

In consultation with these landowners, and in presenting the TAMPPS Model, the inherent cultural connection and intuition that forms the basis of this Model becomes evident. For those who have evaluated the Model it is like “going home.” Back to indigenous values and a focus on Manaakitanga and the principles of Mana Tiaki.

Decision making for Māori is far more about collectivising the benefits that come from land use and resources to enhance whanau and hapu wellbeing, not individual gain.  As climate

change, pandemic risks and increasing costs of living bite hard on whanau in urban areas, many are again looking to return home – to the whenua.

This will see a shift in demographics occur, and a change in land use in rural Māori communities. After more than 100 years of forced urbanisation, people are beginning to return home.

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