Enhancing Māori resilience to address natural hazards through insurance services and provision: Manaaki whenua, manaaki tangata, haere whakamua.

Research Report for Natural Hazards Commission – Toka Tū Ake No 4177

Prepared by:

Dr Yo Heta-Lensen, Dr Jessica Worchel, Professor Ella Henry, Dr Hazel Abraham, Professor Andrew Gibbons

Te Wānanga Aronui o Tāmaki Makau Rau Auckland University of Technology, AUT

In collaboration with:

Whaea Lynda Toki, Hinewaimarama Tanya Reihana White

Tuia te Waiora Peka – Māori Women's Welfare League

NHC Toka Tū Ake Project No 4177

With funding support from

Natural Hazards Commission Toka Tū Ake

PUBLIC

Acknowledgements

This project was commissioned to meet the needs of Natural Hazards Commission Toka Tū Ake (NHC Toka Tū Ake): Project number 4177. We acknowledge NHC Toka Tū Ake as the sole funder for this project and the manaakitanga expressed by the Kaupapa Māori research advisors. The research team gratefully acknowledge the research participants in this study for their time and willingness to share their stories with us. We extend our heartfelt thanks to Kaumātua Hare Paniora, who walked alongside us during the research. We acknowledge the support we have received from many people within NHC Toka Tū Ake, Te Wānanga Aronui o Tāmaki Makau Rau Auckland University of Technology (AUT), Te Whare Wānanga O Wairaka Unitec Institute of Technology, the staff and whānau of Te Noho Kotahitanga Marae, and the editorial assistance of Sue and Alan Knox. We express heartfelt thanks to you all. Special acknowledgements also to Dr Shaun Awatere and Ripeka Te Arani Read (Ngāti Hine, Te Waiariki) for their generosity of spirit in supporting the research and to Tekahurangi Heta-Lensen for being a critical friend to the project and a champion for Māori development. We also acknowledge the artistic design support received from graphic artist Lincoln Moa of Moa Thought. Ngā mihi nui kia koutou katoa.



Executive Summary

Introduction

The objective of this research was to increase understandings of the barriers encountered by Māori homeowners accessing natural hazards' insurance cover. The project was commissioned to meet the needs of Natural Hazards Commission Toka Tū Ake (NHC Toka Tū Ake) Ao Māori strategy. This qualitative research followed a Kaupapa Māori research approach, entailing kanohi-kitea, being a visible face in community-based research. Qualitative research delves into how systemic issues impact people's lived realities. Kaupapa Māori research is a critical research approach that positions Māori as central to the outcome and was the most suitable approach for this study.

Research approach

Participants included members of Tuia te Waiora branch of Māori Women's Welfare League (MWWL) as well as Māori homeowners from targeted areas across Te Ika-a-Māui, the North Island, who were introduced to the study by members of MWWL. This approach facilitated a sense of cultural and emotional safety. The sample group of 21 included individuals from various areas, who identified regional similarities and differences faced by Māori homeowners. To ensure maximum anonymity, matters of iwi alignment were not a focus in this study. Various data gathering methods were employed to gather perspectives from a range of Māori voices. Wānanga (focus group discussions) provided Māori perspectives of natural hazards. Kōrero Tahi (semi structured interviews) gathered individual accounts and experiences of accessing insurance for of Māori homeowners. Data was transcribed and coded using collaborative thematic analysis to generate culturally relevant and grounded interpretation of data.

Findings

Research findings reveal that Māori homeowners navigate a complex socio-ecological landscape that has created multiple, interconnected challenges. Systemic barriers rooted in colonial land laws, historical alienation and entrenched socio-economic disparities severely restrict access to insurance. The data suggests significant misalignment between Western risk-based insurance models and Indigenous worldviews, effectively creating an insurance system in Aotearoa New Zealand that undermines rather than supports Māori resilience. The accounts gathered in this study suggest that Māori possess significant adaptive resilience; whānau are utilising mātauranga Māori – Māori knowledge, and kaitiakitanga – guardianship of the land and associated resources to implement localised climate adaptation strategies. The study highlights that whilst the crown-insurance nexus often exacerbates vulnerability through the marginalisation of Māori knowledge and

approaches, resilience is sustained through the strength of community-led networks and Te Tiriti-based leadership.

Limitations of the study

This research posed an element of emotional risk for potential research participants who had already been involved in natural hazards events. This was exacerbated by a series of extreme weather events including the Wairoa storms in 2024, and the Kaeo Floods in April 2025 while we were in the data collecting phase. The resulting smaller sample size of 21 total participants limits generalisability. However, It enabled sustained, in-depth engagement with participants, producing rich, contextually grounded insights suited to the exploratory aims of the study. This study was not able to gather accounts from Māori homeowners in the South Island but will look for future opportunities to do so.

Conclusion

The study concludes that there is a need to provide educational resources with respect to insurance and improve relationships with Māori homeowners. Involving Māori in climate adaptation, resilience and mitigation planning would also mitigate current approaches that risk sidelining Tiriti-based partnerships and that ignore Māori knowledge and progress in this area. This research has highlighted that Aotearoa has an opportunity to identify and enact innovative adaptation strategies that will strengthen collective resilience. Māori approaches grounded in kaitiakitanga offer a pathway forward. The findings of the study support NHC Toka Tū Ake in their priority to increase understandings of the barriers for Māori in accessing insurance cover and to undertake future analysis for implementing strategies to overcome any barriers identified.

There are four recommendations resulting from the study:

- Centre kaitiakitanga underpinned by the values of manaaki whenua, manaaki tangata as a dual process of care for the land, balanced with care for people. Place kaitiakitanga at the heart of insurance policies and processes. This could align with both Māori and NHC Toka Tū Ake goals
- Provide accountability measures and guidelines that ensure the provision of natural hazards insurance cover and services to Māori is appropriate to their needs
- Create digestible insurance education resources geared to support various household needs appropriate to Māori homeowners
- Further community engagement, community-based Kaupapa Māori research and research partnerships are recommended that can facilitate possibilities for NHC Toka Tū Ake to explore how Kaupapa Māori in their own processes can give expression to Te Tiriti o Waitangi and meet their strategic goals towards building enduring, committed, authentic, reciprocal, genuine and trusted relationships with Māori.

Contents

Acknowledgements 1
Executive Summary 2
Contents 4
List of Figures 6
List of Tables 6
Abstract 7
Introduction 8
Literature Review 12
Climate Change Impacts on Aotearoa 12
Climate Change Impacts on Risk-based Insurance Practices 15
Barriers for Māori Accessing Insurance 17
A Way Forward for Risk-based Insurance to Improve Access for Māori 19
Literature Summary 22
Methodology 24
Kaupapa Māori Research considerations 24
Research methods and analysis 26
Wānanga 26
Whanaungatanga 27
Tiaki rangahau 27
Collaborative thematic analysis 28
Research approach 28
Kōrero Tahi semi-structured individual interviews 31
Kōrero Tahi semi structured interview questions 31
Expert & Practitioner Interviews 31
Data Analysis 31
Limitations of the study 32
Findings 33
Expert Interviews 33
A climate expert perspective: 33
A community practitioner perspective 34
Wānanga findings 35
Concern 1: Differences between Western and Māori approaches in how to live with nature and respond to climate change 36
Concern 2: Systemic Lack of accountability and the impact on Māori homeownership 36
Concern 3: A need for greater education and activation of mātauranga Māori 38

Discussion of Wānanga findings 40
Kōrero Tahi, Individual interview findings 42
Systemic insurance factors 46
Poor communication and follow up 47
Dissatisfaction with assessors 48
The factors that enhance Māori adaptive resilience 49
Project management issues 50
Insurance premiums 50
Socio-ecological factors and barriers 51
Lack of accountability 52
Costly clean up processes 53
Loss of Trust 53
Impact on Wairua 54
Local leadership 55
Discussion 57
Manaaki whenua, manaaki tangata. Haere whakamua 63
Mōkihi: Conceptualising resilience models for Te ao hurihuri in an everchanging world 64
Recommendations 68
Conclusions 71
References 73
Glossary of Terms 84

List of Figures

Figure 1: Community transformation through a process of collective action 39

Figure 2: Socio-ecological model showing the micro, meso, and macro level factors affecting access to dwelling insurance. 61

Figure 3: The structure of the Mōkihi as a representation of Kaitiakitanga 66

Figure 4: Centering Kaitiakitanga as an ecological enabler 69

List of Tables

Table 1: Details of Wānanga participants. 30

Table 2: Demographic information showing the Māori populations and median ages of research participants' communities 43

Table 3: A list of regional hazards issues in research participants' communities 44

Table 4: Findings from kōrero tahi 44

Abstract

Keywords: Natural hazards, insurance cover, systemic barriers and inequities, Māori adaptive resilience

The frequency and severity of natural hazards events is increasing in Aotearoa New Zealand, impacting heavily on Māori communities – many of whom are situated in high-risk locations and face disproportionate impacts from rising insurance premiums. Current insurance policy favours models of homeownership that do not recognise Māori models, creating systemic barriers to access for Māori. This is exacerbated by increased natural hazards events that are challenging how insurance currently operates and which raise insurance premiums. Māori adaptive resilience based on tikanga and mātauranga is being overlooked in mitigation planning.

This qualitative research followed a Kaupapa Māori research approach to identify barriers and challenges faced by Māori homeowners in accessing natural hazards insurance cover. Wānanga (focus group discussions) and Kōrero Tahi (semi structured interviews) were used to learn about Māori perspectives of natural hazards and gather individual accounts and experiences of Māori homeowners' access to natural hazards insurance.

The study found that ongoing systemic and entrenched disparities have created multiple barriers for Māori that intersect with Māori homeownership, land law and insurance policy. This is affecting Māori and Crown relations and causing some Māori to rethink the benefits of current insurance policy. There is a need for greater recognition and activation of mātauranga Māori, centering kaitiakitanga underpinned by the values of manaaki whenua, manaaki tangata, as a dual process of care for the land balanced with care for people. Placing kaitiakitanga at the heart of insurance policies and processes could align to both Māori and NHC Toka Tū Ake goals. This project was commissioned to meet the needs of the NHC Toka Tū Ake Ao Māori strategy. The findings of the study support the priority to increase understandings of the barriers for Māori in accessing insurance cover and to undertake future analysis for implementing strategies to overcome any barriers identified.

Introduction

Recent increases in extreme weather events and rapid climate change are impacting heavily on iwi Māori – Māori tribes who have a close relationship with and reliance on the natural resources within their locations. Income derived from the land is affected, as are traditional practices (Tamehana et al, 2024). Māori cultural taonga – defined here as treasures that include land and resources gifted by the ancestors and passed on intergenerationally, are also at risk. As well as experiencing the impact on the land, many Māori homeowners in both rural and urban settings have suffered personal loss of housing and contents, on top of loss of culturally significant taonga, which were part of their support systems (Te Puni Kōkiri, 2023). They include, in some cases, their marae – meeting houses and complexes. A large proportion of Māori either live away from their marae or live in urban neighbourhood communities or rural communities not associated with their iwi. This diversity indicates a need to understand how to structure and provide flexible insurance options for whānau Māori.

A brief search to inform understandings of Māori housing protection generally, revealed a paucity of research into Māori experiences or literature that considers mātauranga Māori – Māori knowledge related to natural hazards. Some research that examined the legal barriers and obligations in improving Māori access to dwelling insurance for natural hazards (Iorns & Godfery, 2024, 2025), has highlighted possible structural factors contributing to under-insurance amongst Māori. For example, and important in this study, is the Te Ture Whenua Māori Act (TTWM Act, 1993) governing land ownership and occupation. Also addressed is the legislative mechanism of insurance coverage that favours individually owned residential dwellings and excludes some collectively owned Māori properties from residential dwelling coverage (Iorns & Godfery, 2024, p. 24). This illustrates that the goal of TTWM Act (1993) to retain land interests within the whānau may be incongruent with home insurance policies that favour individual land ownership. In Aotearoa New Zealand, home insurance policy was administered through the Earthquake Commission (EQC) Act (1993), until 2023. The Natural Hazards Insurance Act 2023 (NHI Act) came into effect on July 1, 2024, replacing the EQC Act 1993) (NHC, 2024). But the legislative ability to amend insurance coverage to be more accessible to Māori homeowners was not addressed in the new NHI Act of 2024.

Natural Hazards insurance covers policy holders against a range of natural hazards, including flooding, earthquakes, volcanic, landslide and hydrothermal activity and tsunami events. Depending on the terms of the policy, policy holders may also be covered for fire resulting from such events. Policy holders may also be eligible for insurance cover related to essential services such as water, drainage, electricity and telecommunication,

and sewage. Under the scheme, there is a maximum level of insurance cover available. Currently NHC Toka Tū Ake Natural Hazards cover is the sole method of land insurance available in Aotearoa; it is not possible to purchase additional land cover through private insurance although insurers may offer additional cover for structural damage, such as driveway surfaces and retaining walls, not covered under NHC Toka Tū Ake.

In 2022/23 Natural Hazards Commission Toka Tū Ake (NHC Toka Tū Ake) developed Te Ao Māori Strategy funding as part of one of their key priorities, related to equitable access to NHC Toka Tū Ake services for Māori. The strategic objective of this priority is to increase understandings of the barriers for Māori in accessing NHC Toka Tū Ake insurance cover and to undertake future analysis for implementing strategies to overcome any barriers identified. NHC Toka Tū Ake sought social science research that would engage with hapori Māori – Māori communities, to understand their experiences. Members of Te Kura Mātauranga, The School of Education at Auckland University of Technology, Te Wānanga Aronui o Tāmaki Makau Rau (AUT) submitted a research proposal to NHC Toka Tū Ake in partnership with Tuia te Waiora Peka, the Mt Albert branch of Māori Women's Welfare League (MWWL). Research funding was secured to conduct a qualitative study and report on the barriers and challenges for Māori in accessing natural hazards insurance cover.

This research was carried out within Māori cultural and social contexts that included working with participants who have multiple iwi – tribal, and hapū – subtribe affiliations. The design of this project drew on Kaupapa Māori approaches to working with hapori Māori – Māori communities. Kaupapa Māori recognises existing relationships as adding value through whanaungatanga, strengthening existing ties and building reciprocal relationships, which help to build trust between researchers and research communities. Positionality within research requires researchers to openly declare their relationship and responsibilities to the research project and the research participants (Smith, 2022). This includes an ethical duty of manaaki or care for both the research participants, the research and the researchers. As much as possible, this project matched interviewers with participants based on the interviewer's tātai – that is, their connection to an area or to the participant's own iwi. To achieve this, a research partnership was established between two key bodies. These are: Tuia Te Waiora Peka o Te Rōpū Wāhine Māori Toko i te Ora, the Owairaka Mt Albert branch of The Māori Women's Welfare League (hereafter Tuia te Waiora peka MWWL) and Te Kura Mātauranga The School of Education at Auckland University of Technology Te Wānanga Aronui o Tāmaki Makau Rau (AUT). Kaupapa Māori researchers from AUT were also members of MWWL – two were lifetime members.

Professor Ella Henry Kaupapa Māori researcher AUT	Ngātikahu ki Whangaroa, Ngāti Kuri, Te Rārawa	Lifetime member of MWWL
Dr Yo Heta-Lensen Kaupapa Māori researcher AUT	Ngāpuhi, Ngāti Hineāmaru	Member of MWWL
Dr Hazel Abraham Kaupapa Māori researcher AUT	Ngāti Awa, Ngāti Tūwharetoa, Ngāti Rangitihi, Te Whakatōhea, Ngāi Tūhoe	Lifetime member of MWWL
Whaea Hinewaimarama Reihana White Kaupapa Māori research partner Tuia Te Waiora Peka MWWL	Ngāti Hineāmaru, Ngāti Whātua, Ngāti Maniapoto	Member of MWWL
Whaea Lynda Toki Kaupapa Māori research partner Tuia Te Waiora Peka MWWL	Ngāti Maniapoto, Ngāti Rārua, Ngāti Kinohaku, Ngāti Pēhi, Ngāti te Kanawa	Member of MWWL
Dr Jessica Worchel Indigenous Methodologies Research assistant AUT	Tangata Tiriti and research ally	
Professor Andrew Gibbons Project advisor AUT	Tangata Tiriti and research ally	

The objective of this research was to increase understandings of the barriers encountered by Māori homeowners when accessing natural hazards insurance cover. Aligned research was commissioned by Toka Tū Ake (formally EQC) that looked at the legal barriers and obligations in improving Māori access to dwelling insurance (Iorns & Godfery, 2024). In terms of improving Māori access to dwelling insurance for natural hazards, the final report identified how insurance systems run by Toka Tū Ake might be creating obstacles for Māori (Iorns & Godfery, 2025). This research sought to gather Māori ‘lived experience' accounts of the obstacles they faced. Participants shared their perspectives of natural hazards and their experiences of accessing natural hazards insurance. The findings provided base line understandings to inform the provision of accessible and responsive services to whānau Māori impacted by natural hazards in Te Ao Hurihuri, defined here as a world in a constant state of change.

Māori communities are affected differently depending on their geographic location. Therefore, this project focussed more generally on natural hazards than on specific types of events. Māori housing insurance needs is a complex and shifting terrain, both in urban

settings where innovation is occurring to construct housing along culturally prefaced papa kāinga lines (Henry & Crothers, 2018), and housing in high density areas and rural settings (Menzies et al., 2021). Māori communities are affected by a range of environmental risks, exposing vulnerabilities. Quantitative evidence revealed determinants of social wellbeing for Māori, connected with being a homeowner. *Te Pā Harakeke – Māori housing and wellbeing* was released on Statistics NZ's website on 26 August 2021 and shows that Māori home ownership has declined exponentially since the 1930s, when the majority of homeowners in local communities were Māori. According to the statistics, of those who are homeowners, the majority tend to live near their marae (Stats NZ, 2021).

There is a small body of qualitative literature available that critiques the socio-ecological, socio-historic and socio-political causal factors and impact of these statistics from a Kaupapa Māori perspective (Menzies et al., 2019). The results from this study contribute to that body of knowledge to inform future analysis and strategies to improve Māori access to natural hazards insurance.

Literature Review

Tūngia te ururua kia tupu whakaritorito te tupu o te harakeke

Clear the undergrowth so that the new shoots of the flax will grow

Te Ao Hurihuri refers to the ever-changing world, or a world in a state of change. Certain events, such as seasonal weather changes have been observed in past Māori records and were seen as a naturally occurring part of the nature of an ever-changing world, or te ao hurihuri. A polycrisis is defined by World Vision as a series of catastrophic and sometimes linked events that occur at the same time, amplifying the devastation of the events. The 2023 Global Risks Report warns that in the next ten years, the top four global risks ranked by severity are: 1) failure to mitigate climate change; 2) failure of climate-change adaptation; 3) natural disasters and extreme weather events, and 4) biodiversity loss and ecosystem collapse (World Economic Forum, 2023, p. 6). The report states:

Without significant policy change or investment, the interplay between climate change impacts, biodiversity loss, food security and natural resource consumption will accelerate ecosystem collapse, threaten food supplies and livelihoods in climate-vulnerable economies, amplify the impacts of natural disasters, and limit further progress on climate mitigation. (World Economic Forum, 2023, p. 8)

Insurance policy, and in particular, hazards/risk-based insurance, is the policy domain central to this report. This literature review explores the impacts of climate change on risk-based insurance models and identifies barriers to access for hapori Māori. It also provides opportunities for te ao Māori, mātauranga Māori (Māori knowledge), and hapori Māori (Māori communities) to identify and create community-based solutions, with national impact, to adapt to and thrive in Te Ao Hurihuri.

Climate Change Impacts on Aotearoa

There is a global need for recognition and inclusion of Indigenous experiences of and responses to climate change, in their communities within global climate change research, policy and planning literature. In Aotearoa New Zealand, Kaiser et al. (2025) emphasise the need for Māori perspectives in climate change research, which are often overlooked in favour of Western, quantitative approaches. Aotearoa is experiencing increasingly dramatic environmental events, including storms, floods, slips, droughts, and wildfires.

Also prevalent, are risks resulting from slow-onset, gradual changes from climate warming, rising sea-levels, ocean acidification, intensification of development, mono-culture food production, and the loss of biodiversity evidenced in a growing body of environmental

research (Ministry for the Environment, 2022; Lundquist et al., 2011; MacInnis-Ng et al., 2021).

Climate change is significantly impacting the environment, economy, and communities within Aotearoa. The convergence of inter-related effective adaptation and mitigation strategies are essential to addressing these challenges and protecting biodiversity, community resiliency, and socio-economic well-being within Aotearoa (Archie et al, 2018; Hall, 2022; Independent Reference Group on Climate Adaptation, 2025; Ministry for the Environment, 2020; Paulik et al., 2019).

The impacts of and responses to climate change must be understood within the socio-cultural and historical context of Aotearoa. As the Indigenous people of Aotearoa, Māori have a profound and multifaceted relationship with te taiao (the environment), deeply rooted in spirituality, cultural practices, and socio-political consciousness. These embedded relationships are characterized by concepts of whakapapa (ancestry and belonging), tikanga (deeply embedded customary protocols), and kaitiakitanga (guardianship and tribally obliged stewardship). Māori are tangata whenua – the Indigenous people of Aotearoa New Zealand, a status recognised in New Zealand legislation. The Māori philosophy of kaitiakitanga, or environmental guardianship, guides the responsibility to manaaki, or care for, te taiao (Harmsworth & Awatere, 2013; Johnson et al., 2021; Lockhart et al., 2019; Timoti et al., 2017; Walker et al., 2019). This responsibility includes maintaining the mauri (life force), and mana (authority) of the land and its resources through the enactment of tikanga (Iorns & Godfery, 2024; Kawharu, 2000).

Kaitiakitanga holds immense value as a contemporary framework for environmental management, especially in urban settings, where maintaining connections with nature can be challenging (Kawharu, 2000; Rout et al., 2021; Salmond et al., 2019; Walker et al., 2019). European approaches to land management and governance in the 19th and 20th centuries led to the near extinction of kaitiakitanga systems and the widespread transformation of native ecosystems with settlers focused on “taming nature”, by re-engineering landscapes to suit agricultural and economic goals (Kawharu, 2000; Moewaka Barnes et al., 2018; Moewaka Barnes & McCreanor, 2019). Colonisation marginalized Māori environmental knowledge and governance systems, leading to policies that failed to account for long-term ecological sustainability. This exclusion has had lasting effects on environmental resilience and hindered efforts to adapt to climate change and extreme weather events. The alienation of Māori from their land disrupted traditional land stewardship, but also led to structural vulnerabilities undermining Māori political, economic, and social institutions and reduced resilience to environmental threats (Moewaka Barnes et al., 2018; Reid et al., 2017).

The integration of Māori values into land management and environmental decision-making is crucial for the long-term well-being of Aotearoa (Rout et al., 2021; Salmond, et al., 2019; Spiller et al., 2020; Te Puni Kōkiri, 2023). Significantly for this study, researchers Crow et al, pointed out that degradation of landscapes negatively impacts Māori wellbeing (2020, p. 2).

Māori have developed detailed environmental knowledge through generations of observation and interaction with the land (Johnson et l., 2021; Kaiser et al., 2025; King et al., 2007; Salmond et al., 2019; Spiller et al., 2020; Warbrick et al., 2023). Bailey-Winiata et al. (2024) undertook a study identifying examples of pā (complexes of Māori structures) that were relocated in response to natural hazards prior to colonisation. They found that "whānau (family)-level decision-making, cultural norms of awhi (support), whanaungatanga (relationships), whakapapa (genealogical connection), koha (donation), tuku whenua (gifts of land), and mātauranga Māori (Māori knowledge)" were key to enabling Māori to adapt to natural hazards and climate change (Bailey-Winiata et al., 2024, p. 79).

Climate change is exacerbating the detrimental impacts of colonisation (Forster, 2022; Ihirangi, 2022; King et al., 2007; Lockhart et al., 2019; Ministry for the Environment, 2020). These are evident through exposure to climate-sensitive diseases, mental health stressors, and reduced access to traditional food sources, which are crucial for maintaining cultural practices and for well-being (Johnson et al., 2021; Johnson et al., 2024; Jones et al., 2014; Lawrence, 2016; Mihaere et al., 2024). The Rauora Framework (Ihirangi, 2022) highlights that Māori are the most vulnerable population in Aotearoa in regard to negative impacts of climate change for the following reasons:

1. Māori live 'close to the land' in terms of sustenance, relationship and identity
2. Live close to the coast, or in isolated, often impoverished communities
3. Are over-represented in poor health statistics in Aotearoa New Zealand
4. Experience barriers to social cohesion arising from colonisation and deliberate incursion on Māori social structures, leadership, land base, economy, language, culture and education imposed by the State
5. May have poorer access to expertise, data, and information relating to climate change
6. May have poor existing physical infrastructure (roading, water, sewerage etc) within their tribal territories
7. Have multiply-owned land bases with restrictions on use, or have been permanently alienated from large tracts of their traditional homelands and territories once used to sustain their people
8. Are heavily invested in primary industries that will be highly impacted by either climate disruption or by mitigation measures (i.e. targeted emissions reduction measures to be implemented)

9. May already occupy a high volume of inadequate housing
10. May already be experiencing environmental stress, water source pollution, degradation (Waiapu), over allocation (Tūranga) or the impacts of diversion (Waikato)
11. Are likely to be less proximate to national and regional decision making/policy settings
12. Māori still, overall, constitute a demographic minority; often with a small home base population with the majority hapū/iwi population disbursed through urbanisation (as a colonisation policy); creating detachment/engagement challenges where there are large pockets of socially and culturally disconnected tribal citizens

(Ihirangi, 2022, pp. 5-6)

The 2022 Climate Adaptation Plan affirms, “Māori depend on primary industries for their livelihoods. In some places, climate change may alter patterns of use of mahinga kai (food-gathering sites) or rongoā crops (medicinal plant crops), and coastal impacts could disrupt access to marae or wāhi tapu” (Ministry for the Environment, 2022, p. 32). Despite the sustained negative impacts of colonisation and the accelerated challenges brought by climate change, iwi Māori (tribes) and hapū Māori (sub-tribes) have been actively engaged in discussions on climate change and the impacts on their communities, including the proactive development of climate change adaptation strategies and plans (Te Rūnanga o Ngāi Tahu, 2018;Te Kaahui o Rauru & Ministry for the Environment, 2021; Te Urunga o Kea: Te Arawa Climate Change Working Group et al., 2021). These strategies demonstrate the acuity of te ao Māori (the Māori world view), mātauranga Māori (Māori epistemologies), and tikanga (culturally located normative practices) in approaching and understanding the current polycrisis and adapting to Te Ao Hurihuri.

Climate Change Impacts on Risk-based Insurance Practices

With the expected increase in frequency and/or severity of damaging hazards due to climate change, experts are projecting increases in expected claims and the capital required to maintain solvency (Collier et al., 2021; Oquendo-Torres & Segovia-Vargas, 2024; Storey et al., 2024; Yang, 2023; Zhou et al., 2023). Climate related impacts lead to higher economic losses from natural catastrophes, lowering insurer profitability and risk-sharing capacity and affecting the stability of the financial sector (Oquendo-Torres & Segovia-Vargas, 2024; Owen et al.; 2024; Storey et al., 2024; Yang, 2023; Zhou et al., 2023). NHC Toka Tū Ake is projected to face higher financial burdens due to the increased frequency and intensity of extreme weather events, leading to higher damages and additional financial liabilities (Independent Reference Group on Climate Adaptation, 2025; Lawrence, 2016; Storey et al., 2017; Storey et al., 2024).

Studies in Aotearoa demonstrate that rising insurance costs is causing people to drop insurance. Consumer NZ (2025) for example, pointed out that insurance has increased in Aotearoa NZ by 911 % since 2000. They reported that among those who don't currently have house insurance, 17% dropped it due to cost in 2025, which is more than double the 2022 number of 7%.

Many assets, particularly homes, are becoming uninsurable due to increased climate risk, particularly in low-lying and flood prone areas (Pastor-Paz et al., 2020; Pastor Paz, 2021; Paulik et al., 2019; Storey et al., 2017; Storey et al., 2024). Insurance retreat occurs when a private or public insurer declines an application for insurance coverage or stops offering renewal of existing coverage, based on the property's exposure and vulnerability to an escalating hazard (Storey, 2017, p.55). Storey et al. (2024) found that, for coastal properties, retreat is likely to occur within 20-25 years and will likely coincide with the property's elevation and distance from the coast, and the tidal range of the area (p. 1). This places stress on the sustainability of natural hazards insurance. In 2024, it was estimated that 400,000 residential buildings were in flood zones in Aotearoa, and half of exports were produced by climate-exposed sectors (Extreme Weather Research Platform, 2024, p. 3).

According to the Office of the Minister of Climate Change (2024):

The new reality of climate change will increasingly strain the systems governing our built environment and the stability of our housing, finance and insurance markets (p. 3).

Government and its agencies must invest in adaption plans that "empower individuals and communities by taking a decentralised rather than top-down approach" (Office of the Minister of Climate Change, 2024, p. 4).

The insurance industry, along with regulators and policymakers are developing strategies to monitor loss trends, improve catastrophe modelling, and prepare for the impacts of climate change.

The concept of climate resilience has gained prominence in academic and policy discourse as a critical framework for addressing climate change. Climate resilience is the capacity of social, ecological, and economic systems to absorb, adapt to, and recover from climate-related disturbances while maintaining their essential functions and structures (Chief Economist Unit & Pells, 2023). Resilience is a dynamic process that enables systems to evolve in response to environmental stressors. It depends on a shared understanding across diverse stakeholders and an open, inclusive learning process to identify and implement measures that address climate change uncertainty (Bahadur, et al., 2013; Friend & MacClune, 2013).

These enablers are essential for navigating the uncertainties of climate change, particularly in contexts where current risk management approaches may be insufficient. Importantly, resilience is increasingly viewed as the ability to reduce future vulnerabilities and enhance long-term sustainability (Ihirangi, 2022; Ministry for the Environment, 2019; Tamehana et al., 2024; Te Urunga o Kea: Te Arawa Climate Change Working Group et al., 2021). Herein lies opportunities for insurers to develop new models, products, and services that promote sustainable development practices and forward-looking risk management, address barriers to access and inequities arising from current economic models that negatively impact Māori and other communities and uphold commitments within Te Tiriti o Waitangi.

Barriers for Māori Accessing Insurance

Studies suggest that barriers to accessing insurance for Māori include socioeconomic factors such as higher rates of poverty, lower homeownership, and limited financial literacy as well as discrimination, systemic racism, inadequate culturally appropriate services, and a lack of trust in insurance services (Awatere et al., 2021; 2019; Boulton et al., 2022; Branz, 2023; Hall, 2022; Ihirangi, 2022; Johnson et al., 2021; Menzies et al., 2019; Owen et al., 2024). The 2023 Census showed that 27.5 % of Māori owned or partly owned their home in 2023, down from 31.2 % in 2013 (Te Whata, 2023). Across all areas of insurance coverage, Māori have much lower coverage rates with only 33% of Māori accessing general insurance in comparison to 54% of non-Māori (Retirement Commission, 2021).

Wharenui are typically not recognised as eligible for publicly provided NH Cover because they do not contain a “dwelling” as defined in the Natural Hazards Insurance (NHI) Act 2023 Part 1. 6 (1). Iorns and Godfery (2024) note that the social organisation of Māori into hapū with the marae generally serving as an incorporated society or private trust communally owned and managed, precludes many marae and wharenui (meeting houses) from NHI Cover. “Where they are insured, marae are usually covered under commercial schemes. This increases the cost of insurance for the buildings and does not allow for specialist cultural needs, such as insuring irreplaceable taonga” (Extreme Weather Research Platform, 2024, p. 8).

A significant quantity of cultural and spiritual assets, or taonga Māori are communally owned. These taonga have intangible value leading to extreme difficulty in insurers assessing and assigning value and associated insurance policies to them (Rangitauira, 2015; Stepanova, 2019; Turia, 2013). Land is viewed as taonga amongst Māori. Application of Te Ture Whenua Māori Act also places restrictions on sales of Māori land making it difficult to value and/or placing a much lower value on Māori land and property (White,

2018). “The variety of land ‘ownership’ models within Te Ao Māori means it is not always possible to find an individual ‘owner’ to insure a property” (Extreme Weather Research Platform, 2024, p. 7). These varied ownership models may also mean that infrastructure on the land may have a different owner. This all contributes to increased difficulty for Māori in terms of accessing financial resources to afford insurance for collectively held assets. Additionally, it has been identified that many communally owned assets, particularly marae, are located in flood prone areas, coastal inundation zones, and/or difficult-to-access areas, making insurance too costly or altogether unavailable (McLeod & Lam, 2021). This has implications for homeowners, given the percentage of Māori homeowners who live near their marae in rural areas.

As well as technical and financial challenges accessing insurance, many Māori demonstrate low trust in government agencies and business institutions. In their paper that explored the implications of increasingly risk-based insurance pricing on te ao Māori, researchers Owen et al. (2024) offered the following insight in to why this may be:

…Insurance also requires a level of financial stability and financial literacy, trust in financial institutions, and enough income to afford it. Trust in financial institutions and in the judicial system to enforce legal behaviour as a colonised population is understandably likely to be lower than for the majority of citizens. (Owen, et al., 2024, p. 7).

There is a deep cultural misalignment between te ao Māori models functioning under tikanga and the current natural hazards insurance model. As noted in research by Iorns and Godfery (2024), “*Under tikanga – a normative system encompassing the legal as well as the social, economic, and political – rules were developed to control everything from access to hazardous areas under a system of tapu to the management of scarce resources under a system of kaitiakitanga*” (p. 4). Their research highlighted that, while tikanga was not technically insurance, it supported Māori “to adapt and avoid natural hazards” through intimate connections held with te taiao. Māori shared their learning through pūrākau, summarised by the authors as “narratives that encapsulate and transmit empirical information, philosophical ideas or legal rules” (Iorns & Godfery, 2024, p. 5). Māori adapted to and designed their communities based on in-depth knowledge of their natural environment thereby limiting the need for insurance that focused on the compensation of losses.

These compounding factors detail some of the structural barriers Māori face in accessing insurance, and conceptual barriers government and the insurance industry face in providing insurance. The interconnected nature of these factors can be viewed as a polycrisis (Janzwood & Homer-Dixon, 2022).

A Way Forward for Risk-based Insurance to Improve Access for Māori

Katohia ngā rau o onamata. Katohia ngā rau o nāia.
Raraungia he kete mātauranga mō anamata.

Gather the leaves of the past. Gather the leaves of the present. Weave a basket of knowledge for the future.

(Te Urunga o Kea: Te Arawa Climate Change Working Group et al., 2021)

According to Janzwood & Homer-Dixon (2022) "*humanity now faces a set of global systemic risks — among them climate change, biodiversity loss, widening inequalities, pandemics, financial instability, political unrest — all influenced by long-running demographic trends*" (p.6). In Aotearoa, recent regulatory changes, driven by the Reserve Bank of New Zealand, have moved toward risk-based pricing for home insurance in flood-prone and earthquake-exposed areas (Insurance Business NZ, 2024). This approach signals a shift toward market-based climate adaptation, wherein homeowners pay premiums relative to their exposure. This reflects a growing alignment between climate science, financial risk management, and public policy.

These reforms, while technically grounded in actuarial and hazard modelling, may also serve a symbolic function. They demonstrate the State's commitment to climate-resilient infrastructure and fiscally responsible governance. In doing so, Aotearoa New Zealand positions itself as a normative leader among high-income nations responding to climate-induced loss and damage (Freistein & Müller, 2025). However, according to Indigenous scholarly literature (Whyte, 2017, 2020) risk-based insurance models can also be understood as institutions that normalise climate influenced injustice, by treating structurally produced harm as actuarial variability. This approach reinforces inequitable distributions of vulnerability rather than preventing loss. For many Indigenous peoples, environmental disruption, forced relocation, food insecurity, and economic precarity, are not unprecedented future threats but lived historical conditions. Consequently, dominant institutions that frame climate change as an unpredictable or emerging risk, misunderstand its nature and origins (Whyte, 2017). Whyte emphasises that contemporary risk-management frameworks—such as those used in climate policy, economics, and insurance—rely on assumptions of environmental stability and social continuity that have never applied to Indigenous communities (Whyte, 2020).

Against current risks to solvency of the risk-based insurance market, is an opportunity for Aotearoa to radically redefine approaches to insurance; te ao Māori offers a worldview and practical solutions on ways forward. This section details contemporary literature that

identifies research-informed strategies for future approaches to natural hazards insurance.

The 2022 National Adaptation Plan states

In accordance with the principles of Te Tiriti o Waitangi, the Government and Māori will need to make decisions together in a way that balances kāwanatanga (the Government's right to govern) with rangatiratanga (the Māori right to make decisions for Māori). Mātauranga Māori (indigenous knowledge) and an indigenous worldview will provide a valuable lens for planning and considering solutions (Ministry of the Environment, 2022, p. 26).

There is a clear message emerging from research, the Waitangi Tribunal, and other government agencies that, as the nation works to identify solutions, it must consistently and continually engage Māori and enact co-decision making practices, as required by Te Tiriti o Waitangi and noted as best practice in the research (Crow et al., 2020; Forster, 2022; Hall, 2022; Ihirangi, 2022; Ministry for the Environment, 2020, 2022). There is a wealth of knowledge and solutions for re-envisioning approaches to managing risk and adapting to Te Ao Hurihuri (Archie et al.,2018; Boulton et al., 2022; Boulton et al., 2020; Branz, 2023; Crow et al., 2020; Forster, 2022; Harmsworth & Awatere, 2013; Hikuroa, 2013; Ihirangi, 2022; Johnson et al., 2021; King et al., 2007; Lockhart et al., 2019; Maketu Iwi Collective, 2023; Mihaere et al., 2024; Tamehana et al., 2024; Te Kaahui o Rauru & Ministry for the Environment, 2021).

A key aspect is understanding how a Māori economy functions; an economy that "sits within te taiao" (Owen, et al., 2024, p. 3) and is underpinned by mātauranga Māori, whakapapa, and philosophies rooted in kaitiakitanga, whanaungatanga (relationships), and manaakitanga (generosity). As highlighted by Owen et al. (2024) research in Māori economies indicates that a distinctive feature of Māori economic well-being is a focus on something more than material wealth (p. 3). The Māori economy is comprised of organisations which balance profit with social, cultural and economic goals. The Māori economy promotes iwi vitality, that focuses on "…secure identity, intergenerational sustainability, collective cohesion, environmental stewardship, self-determination, economic prosperity, and whānau health and wellbeing" (Owen et al., 2024, p. 5). The challenge for risk-based insurance is how to shift the fundamental principles from which it currently operates and develop models that promote vitality for people and land.

King et al. (2007) have conducted research demonstrating how Māori environmental knowledge (MEK) can make valuable contributions to hazard management in Aotearoa. While the process of gathering and sharing knowledge is critical:

It's important to recognise that incorporating MEK into the process of hazard management does not end with documenting that knowledge. Rather, the process should actually involve Māori people, their knowledge, and expertise... Civil Defence and local authorities tasked with hazards management should actively facilitate this knowledge-sharing to ensure that MEK is incorporated into the decision-making process; without it, New Zealanders are at greater risk than they need be (King, et al., 2007, p. 25).

Knowledge-sharing is recognised as a way forward through its alignment to te ao Māori. For example, the Mōhio Climate Innovation Lab, led by Hall (2022) applied a co-design process to develop the report, Adaptation Finance: Risks and Opportunities for Aotearoa New Zealand (2022). The report notes that marae play a key role in natural disasters as they "often function as shelters in time of crisis – for non-Māori as well as Māori – with one-third of marae designated as Civil Defence Centres" (Hall, 2022, p. 26). The report offers a Resilient Marae Programme concept proposal where "an insurance premium reduction programme (IPRP) could be implemented to offer risk-adjusted premiums which reflect risk reductions from building upgrades and the integration of ecosystem-based adaptation in surrounding areas (e.g. revegetation of nearby waterways to reduce flood risk)" (Hall, 2022, p. 26).

McLeod & Lam (2021) note that some iwi have begun offering collective marae insurance through licensed insurers to cover buildings and contents such as taonga, while offering advantages such as "subsidised policies or waived administration fees, more straightforward sign-up and approval processes, and additional individual or business insurance options" (p. 7). This practice has seen a high rate of adoption where it is available.

The Tiakitanga Fund for Intensified Stewardship was another proposed concept, noting that Indigenous stewardship provides a vast wealth of knowledge and practices for climate adaptation solutions (Hall, 2022).

Consequently, support that helps Māori to intensify the stewardship of their assets may be a source of cost-effective adaptation with significant social co-benefits and spill overs for local communities. This approach could include crowd-funding to scale up informal risk-sharing networks, micro-insurance to increase access to risk transfer, tailored insurance for Māori cultural infrastructure and events, equity and loans for Māori entrepreneurship in resilience-enhancing enterprises, pay-for-performance arrangements which enable revenue collection from the beneficiaries of increased resilience, technological support for environmental monitoring, finance to enable relocation and energy independence of marae, and so on. This could also be nested within regime-level interventions to address financial barriers to Māori, such as the provision of credit guarantees to banks to support

lending to whenua Māori or public procurement commitments which de-risk Māori businesses and improve credit ratings (p. 81).

The research above emphasises that a way forward for removing barriers for Māori accessing insurance, must incorporate multi-dimensional, co-designed, change management processes led by Māori and rooted in te ao Māori, that works to identify resilient adaptation strategies for a changing world. It also addresses the detrimental impacts of colonisation and Māori disenfranchisement to envision and enact a thriving Aotearoa. The way forward must "protect the integrity of Māori language and customary lore, future-proof existing cultural infrastructure, and provide flexibility as well as safeguards for enabling whānau to engage in social/cultural activities that enhance wellbeing and ensure an enduring cultural legacy for future generations" Awatere et al (2021, p. 9).

Literature Summary

Māori face multiple, compounding barriers to accessing natural hazards insurance. These include financial and socioeconomic constraints, such as higher poverty, lower homeownership and reduced trust in financial and legal institutions resulting from colonisation. Alongside these are historical discrimination and systemic racism, limited culturally appropriate services, and low trust in insurers and government institutions. These factors contribute to lower overall insurance coverage rates for Māori and reduce the ability to absorb premium increases or excesses.

There are also structural barriers linked to Māori land tenure and collective ownership. Marae and wharenui are often not classified as standard residential dwellings, which can exclude them from typical natural hazards cover or push them into commercial insurance that is costlier and less responsive to cultural needs (including cover for taonga). The complexity of ownership and governance arrangements under Te Ture Whenua Māori Act and within Te Ao Māori can make it difficult to identify a single "owner" to insure, to value land and assets, or to use property as collateral—constraining access to finance needed to insure collectively held assets. These challenges are intensified by geographic exposure, as many communally owned assets (and some nearby Māori households), are in high-risk areas such as floodplains or coastal inundation zones, where insurance becomes expensive or unavailable. Finally, there is evidence of unequal claims experiences including non-expert assessment, settlement discrepancies, and longer settlement timeframes for whenua Māori that reinforces mistrust and further deters engagement with insurance.

There is a clear and well-researched recognition that Aotearoa is afforded a wealth of opportunity to identify and enact innovative adaptation strategies, that will strengthen collective resiliency. Māori approaches that pull from the past to identify solutions grounded in concepts of kaitiakitanga, manaakitanga, and whanaungatanga, offer pathways forward. Te ao Māori provides valuable perspectives for navigating a polycrisis by understanding and emphasising interconnectedness, reciprocity, and respect for the natural world, prioritising holistic well-being, and promoting collaborative approaches to problem-solving and alternative solutions to dominant, often fragmented, approaches to addressing complex challenges.

Methodology

Kaupapa Māori Research considerations

Kaupapa Māori research is a paradigmatic and philosophical approach to research that has been evolving in Aotearoa New Zealand since the early 1990s. According to Henry and Pene (2001), Kaupapa Māori is an ontological and epistemological standpoint, a philosophy out of which knowledge production occurs for, with and by Māori. Henry (2012) notes that early definitions of Kaupapa Māori were founded on a notion that it was an emancipatory release from the 'science' of the dominant Eurocentric culture. She cites Cram (1993), who argues the purpose of Māori knowledge is to uphold mana Māori. Thus, the Kaupapa Māori research paradigm embraces traditional beliefs, while incorporating contemporary resistance strategies that embody the drive for 'tino rangatiratanga', self-determination and empowerment for Māori people.

Kaupapa Māori can be viewed as a set of beliefs founded on that which is tika (true), reflected in tikanga. For example, the importance of the collective is exemplified by whanaungatanga; the interdependence between and among all living things is expressed as kotahitanga; the intimate relationship with the spiritual dimension is reflected in wairuatanga; and the inherent acknowledgement that humans are guardians of their environment is an expression of kaitiakitanga. In research, when whanaungatanga is established, it fosters a relationship with the research, and between the researcher and the research community (Heta-Lensen, 2022). Because it is a non-linear approach to viewing connections with time and place, whanaungatanga supports a process of 'walking backwards into the future' so we can ensure the survival of our traditions, our knowledge, our people (Rameka, 2016).

These and other similar values, shaped Māori beliefs and behaviour in traditional society, and continue to resonate in contemporary society, as research practices, within the growing ambit of Kaupapa Māori methodologies, defined by Linda Tuhiwai Smith (1999, 2022) as decolonising research methodology. Taken together, these tikanga can be viewed as ethics, which inform traditional Māori ontologies, insofar as 'ontology' shapes assumptions about human nature, what is real and true for Māori. These traditional Māori ethics and philosophy also underpin Māori epistemology, comprising ways of 'being' and 'knowing' according to principles that are 'tika', and which are embodied in 'tikanga Māori'. This supports the notion that Kaupapa Māori research can be seen as a methodology, encompassing a set of research methods and procedures, which in turn are shaped by our assumptions about what is 'real' and what is 'true'. Methodology in this context is not so much a matter of distinguishing 'quantitative' from 'qualitative', or 'deductive' from 'inductive' methods, but of recognising that Kaupapa Māori is a

framework, a paradigm for understanding what is real for Māori, how Māori live according to tikanga, and how traditional and contemporary knowledge can be understood, analysed and created through the application of tikanga in research.

Kaupapa Māori writers have argued that research on Māori, conducted by the dominant culture as the "coloniser", has resulted in the objectification of Māori, and the diminution of Māori language, culture and epistemology. For Smith, "Māori people have had to be convinced that research can have positive, pragmatic and innovative outcomes, that research can be useful and sympathetic and, that not only can Māori be partners in research, but Māori can also carry out research ourselves" (1999, p. 2).

Henry & Foley (2018) argue that Kaupapa Māori research emphasises interdependence (kotahitanga, whanaungatanga) and spirituality (wairuatanga) as fundamental components of both intellectual endeavour and knowledge construction. These are cultural concepts that are not necessarily reflected in mainstream Western methodologies. On their analysis, the Kaupapa Māori research paradigm is a foundation for research, a manifestation of Māori cosmology and worldview. It draws together ontology, axiology, epistemology and methodology in an holistic research paradigm, whose primary purpose is to uphold mana Māori, and contribute to enhanced understanding of te ao Māori.

The Kaupapa Māori research paradigm produces new knowledge, while validating traditional knowledge, contributing to the empowerment of Māori people and the revitalisation of Māori language and culture. This model has been shaped into a set of Kaupapa Māori principles, which researchers can draw on, to inform critical self-reflection and guide their intellectual work. In summary, Henry & Wolfgramm (2015, p. 276), state that Kaupapa Māori research is:

- Research for, with and by Māori people (unless Māori decide otherwise)
- Research that validates Māori language and culture
- Research that empowers Māori people and delivers positive outcomes.

In this research, the project team ensured the researchers were able to operate within and contribute to the development of a Kaupapa Māori framework appropriate for this project. We drew on our local mātauranga to identify three areas of focus:

- Manaaki Whenua: Understanding environmental changes and changes associated with climate change
- Manaaki Tangata: Understanding the factors that support Māori resilience and adaptability to natural hazards
- Haere whakamua: Identifying strategies to improve natural hazards to comply with insurance services and support provision for Māori homeowners.

Research methods and analysis

Throughout this project, culturally located research methods were utilised that would enable us to achieve our research aims. As identified earlier, establishing appropriate tikanga as an ethical framework to guide a process that connects, resonates and responds to preferred processes is a critical consideration when undertaking any research with Māori. But it is a cultural imperative in Kaupapa Māori research, to ensure appropriate processes for engaging and establishing relationships with a range of hapori of the whānau grouping, and establishing collective agency (Smith, 2022). Kaiser et al. (2025) developed a Kaupapa Māori methodology that integrates Māori worldviews, whakapapa (genealogy), and storytelling with Western research methods to create a culturally grounded and adaptable framework for climate change research. Our approach to this study was culturally grounded in wānanga, as our preferred research method to generate understandings, inform thinking, and define key issues for hapori Māori.

Wānanga

Wānanga is a collaborative knowledge sharing method. It embodies collective spirit, generating a sense of cohesion and connection, supporting the emotional safety of participants. As a culturally nuanced research approach, wānanga establishes the parameters where thinking is explored, understandings are generated, and knowledge is shared within a collective group process. Whakapapa is at the heart of understanding the deep connection that Māori have with whenua. Pūrākau (intergenerational story telling) stores Māori knowledge and responses to climate change.

During wānanga, participants are able to make connections to people and whenua through the space that is opened to share whakapapa in wānanga-based research settings.

The tikanga that guided the wānanga in this study included manaaki tangata (empathy and concern for people) and whanaungatanga. This added to the capacity of wānanga to provide emotional support for participants affected by traumatic natural hazards events. The parameters of discretion and the confidentiality of the wānanga space are understood and clarified for all participants. Within the structure of the wānanga process, tribal differences and variations may emerge. These can be acknowledged and incorporated to build upon the generation of knowledge, further informing research (Kaiser et al., 2025). In this project, the incorporation of wānanga invited people to step into collective knowledge generation (Spiller et al., 2020).

Whanaungatanga

Establishing and maintaining a pattern of right relationship between people, place, space and time sits at the core of whanaungatanga and is a central value within te ao Māori. It guides relationships and honours whakapapa, often establishing commonalities which can help to shape research. Whanaungatanga supports Kaupapa Māori research approaches by positioning researchers and participants alongside each other as a whānau rangahau – a community of researchers, with shared interests in the process. As a result, there are benefits not just to the researchers but the entire research community. This is a research and cultural imperative of both Kaupapa Māori theory (Smith, 1997) and Kaupapa Māori research (Smith, 2022). The benefit of working this way includes the generation of mātauranga with communities that serves those communities, and benefits everyone. This is best summed up by Ihirangi (2022) in their analysis of design principles required for any robust climate change adaptation planning:

> *Mobilising and empowering 'human communality' at a grass roots level is imperative. This community-based creative process might be summarised as follows: gaining first-hand knowledge of community needs through "problem-based action research", developing a comprehensive understanding of the history and "ecology" of a community economy, implementing strategies for regaining control of local economies, creating models based on lessons learned and the application of research of practices that work, and cultivating networks for mutual support and action. This reflects authentic empowerment of communities from grassroots activity within the communities themselves. This also implies the need for a community education process that is initiated by the community in partnership with external expertise to produce solutions* (Ihirangi, 2022, p. 15:21).

Tiaki rangahau

As identified by Tamehana et al. (2024) spiritual vitality within the research process has application across a range of research contexts, including land and people and the research itself. Care for the holistic wellbeing of people through taha wairua supports resilience. This was central to the kaupapa of our project. Drawing on the concept of tiaki (care) as proposed by Smith (1999), the project included tiaki rangahau – culturally located research guidance ensuring tika, pono, aroha as cultural integrity and accountability. This was strengthened through our research partnership with Whaea Lynda Toki and Whaea Hinewaimarama Reihana White from Tuia te Waiora Peka MWWL.

Tiaki wairua, defined here as care for spiritual wellbeing was provided throughout the project by Tuia te Waiora Peka research partner, Whaea Lynda Toki, in her role as Kaiawhina rangahau. Whanaungatanga as a quintessential value (Heta-Lensen, 2022) of respectful relationship, was ensured by Whaea Hinewaimarama Reihana White. Tiaki

rangahau was a crucial service available to participants who contributed their accounts through Kōrero Tahi and who were still affected by the events they had experienced. Matua Hare Paniora, Pae Ārahi at Te Whare Wānanga o Wairaka, kaumātua and Ngāpuhi elder blessed the project and guided us, providing cultural leadership in terms of tikanga and kawa.

Collaborative thematic analysis

This research involved qualitative, inductive research, using thematic coding. In mainstream Western science, thematic analysis is often conflated with content analysis of both quantitative and qualitative data. It is viewed as a meta-analytic tool, involving coding of lower-to-higher-level understandings of key themes (Terry et al., 2017). For Neuendorf (2018), content analysis is usually deductive, involving a quantitative technique, which is applied to messages in an objective, reliable fashion. Content analysis may include human and/or computer coding (e.g. NVivo). Thematic analysis often involves a more interactive process with the data, resulting in a thematic structure of key themes as the main outcome. The use of computer coding involves singular activity, e.g. the researcher inputting data into the software, and developing themes and nodes through that process.

However, according to Henry & Crothers (2019), tikanga Māori may also inform data analysis. They cite collective thematic analysis as a data analysis tool inspired by notions of hui and wānanga, where groups, including researchers, and even participants and others with expertise in the field, engage in collective and collaborative sense-making. This approach generates understandings resonant to the community that adds to Māori knowledge or mātauranga Māori. According to the definition of mātauranga as outlined in the Wai 262 Report (Waitangi Tribunal, 2011), mātauranga is derived from the verb ‘mātau’ – to describe knowing. In this context mātauranga can refer to Māori epistemologies; of not only ‘knowing’, but also ‘how something is known’. This also includes how Māori

… explain, make sense of, and codify phenomena and reality within the physical and metaphysical universe. Other terms such as kōrero, mōhiotanga, māramatanga, and wānanga are also synonymous with knowing and knowledge in certain contexts (p. 3).

This approach was taken in the study to generate a culturally relevant and grounded method of making sense of the data.

Research approach

To avoid the danger of applying tikanga superficially with no real in-depth application or benefit to the research participants (Ihirangi, 2022; Smith, 2022) the research team took an approach that enabled participation in the project development from the outset.

Participants were invited to participate in the project, through whanaungatanga, that is through association. In that sense, employing whanaungatanga is similar to snowball sampling, a form of non-probability convenience sampling. However, in Kaupapa Māori research contexts, whanaungatanga guides interactions. Unlike convenience sampling, it involves a long-term commitment to sustaining relationships. It may take a little longer to launch a project, but it facilitates trust, connection, and relationship, all of which help to mitigate and work together through any emotional safety issues that may emerge. As such, these methods form part of the Kaupapa Māori methodological approach taken that centred aroha ki te tangata empathy and care for the research participants (Smith,1999; 2022). This approach enabled the research team to work with participants and acknowledge how the various ways the natural hazards events they had experienced impacted on taha wairua – spiritual wellbeing as well as taha tinana – physical wellbeing. Also implicit was taha whenua – wellbeing of the land, taha hinengaro – emotional wellbeing, and taha whānau – with the overall impact on the wellbeing of the whānau. This aligns with the design principles outlined in Ihirangi (2022) that acknowledges there is no standard Māori approach or response. Likewise, people's experiences and responses to loss, and their reasons for having or not having dwelling insurance are diffuse. It was important to provide opportunities to participate in a way that created space for everyone's perspectives and situations.

To achieve this, two methods of data gathering were employed: one was Wānanga as a group-based approach to sense making and knowledge generation that focussed more generally on the issue of climate change and adaptability and natural hazards. The other method was Kōrero tahi, or semi-structured interviews for Māori homeowners who had encountered a natural hazards event, or who had an experience of accessing natural hazards insurance to share.

Two wānanga planning hui were hosted by research partners representing Tuia te Waiora peka MWWL and The AUT research team together with interested members of the Tuia te Waiora Peka to determine how to proceed.

Te kaupapa o te wānanga, the focus of the Wānanga, was based on discussion. Three key focus areas guided discussion:

- Observations of changes in te taiao
- Impact for whānau of environmental changes, natural hazards events, and flooding.
- Strategies to improve the provision of insurance services for Māori

The research wānanga was arranged by Tuia te Waiora peka MWWL research partners involved in the project and facilitated by the research team from AUT. This enabled Tuia te Waiora peka MWWL research partners to collaborate in the wānanga as insider research

participants. It was hosted at Te Pūkenga Whare Ako at Te Whare Wānanga o Wairaka Unitec Institute of Technology and attracted eight participants. The Wānanga participants represented a diverse cross-section of the Te Ika-a-Māui the North Island, as can be seen in Table 1. Whakapapa ties to those regions provided a certain amount of cultural flexibility needed to move between a range of iwi. Insider researcher understandings (Spiller et al, 2020) that exist in relation to the impact of natural hazards on communities added to our capacity to provide appropriate manaakitanga.

Table 1: Details of Wānanga participants.

Participant details
Wānanga Participant 1 Lives in Tāmaki Makaurau away from iwi with extended whānau. Travels home regularly. Region of origin: Heretaunga
Wānanga Participant 2 Lives in proximity to some of their Iwi but apart from their other Iwi Region of origin: Southern Waikato, North Taupo
Wānanga Participant 3 Reo Māori revivalist. Native speaker te reo Māori. Lives in the city. Ties to Southland. Region of origin: Far north, Hokianga area
Wānanga Participant 4 Grew up and went to school in Tāmaki Makaurau. Travels North regularly. Region of origin: Far north, Kaitaia district
Wānanga Participant 5 Lives in a blended whānau grouping in Tāmaki Makaurau comprising 3 generations. Has ties to Mana whenua (Ngāti Whatua). Travels home regularly Region of origin: Te Kaipara, Bay of Islands, Tāmaki Makaurau
Wānanga Participant 6 Mama of a young family Lives away from whānau and whenua. Region of origin: Hawkes Bay
Wānanga Participant 7 Grandmother and tribal elder. Knowledge holder. Head of whānau. Region of Origin: South Waikato, King County
Wānanga Participant 8 Lives in Tāmaki Makaurau. Region of Origin: Bay of Plenty

Kōrero Tahi semi-structured individual interviews

From the research wānanga, 16 potential participants were identified for potential Kōrero Tahi – semi structured interviews. Of the participants approached, 13 agreed to an interview. The participants were from Te Tai Tokerau, Tāmaki Makaurau, Waikato, and Te Matau-a-Māui regions.

Kōrero Tahi semi structured interview questions

What was the nature of the event that you would like to discuss with us? How did it affect your house?

What kind of support did you receive through dwelling insurance? How did that help you?

How did that impact on your ability to stay in your house? What could be done differently to improve your experience?

What kind of information do you think should be made available to people about natural hazards events and how dwelling insurance works?

Expert & Practitioner Interviews

The research team additionally conducted expert interviews. We wanted to compare their scholarly and lived experience of communities coping with increasingly adverse weather and associated natural hazards, with the data gained from wānanga. We interviewed: Dr Shaun Awatere, who has contributed to a number of papers relating to climate change adaptation and risk-based insurance pricing (Lawrence et al, 2023; Owen et al., 2024) and Ripeka Te Arani Read (Ngāti Hine, Te Waiariki) who has returned to her whenua to run a consultancy, advising whānau on climate change issues and freshwater-management strategies.

Data Analysis

Once all the data was gathered, a collective thematic process involved an analysis hui with AUT research team to determine the possible themes. Data was coded and the themes identified. This was then discussed with Tuia te Waiora Peka MWWL and at a wider level with Wānanga participants and, lastly with Kōrero Tahi participants. Once complete, the key themes and preliminary findings were presented to our research partners Tuia te Waiora Peka MWWL as well as to Kaumātua Hare Paniora. We presented our findings in an open invitation to a Wānanga at Te Noho Kotahitanga Marae in Mt Albert. This approach ensured the integrity of our stated data gathering method in that it provided multiple opportunities to interact with the data; to ask, challenge and suggest changes. Once we

reached an agreement, and everyone was satisfied with the final themes and what they revealed, the research and the hui was blessed and brought to a close.

Limitations of the study

As highlighted in the methodology section, Kaupapa Māori researchers have reported on negative research experiences Māori have encountered. This research posed an added emotional element of risk for potential research participants who had been involved in natural hazards events, exacerbated by a series of extreme weather events while we were in the data collecting phase: for example, the Wairoa storms in 2024, and the Kaeo Floods in April 2025. The tikanga embedded in our methodology guided mitigation through the level of care provided, and the multiple ways that people were able to contribute. The small sample size of 21 total participants limits generalisability. However, a smaller sample size enabled a relational approach which facilitated whanaungatanga, enhancing the researchers' ability to work within a framework of manaaki tangata to ensure overall hauora – wellbeing for all participants. This was methodologically well aligned with the kaupapa Māori approach taken. It enabled sustained, in-depth engagement with participants, producing rich, contextually grounded insights suited to the exploratory aims of the study.

Findings

Expert Interviews

A climate expert perspective:

Dr. Shaun Awatere has been part of a working group looking at climate adaptation and relocation, which he feels is a big issue for many whānau and Māori communities who have been negatively affected by adverse weather events. Some of those communities will have to relocate as weather crises continue, while insurance may not fully cover these events. Thus, some communities will need additional advice and assistance from local and national government agencies, to best prepare for, or manage the consequences of these events.

Shaun has explored the appetite and capacity for iwi to become insurers. This search was conducted based on the history of conservative strategies of traditional insurers, who are wary of aligning with iwi. However, if iwi are to pursue such a strategy, a collective approach would be necessary, given the costs involved. Thus, he indicated that it could not be a market-driven, purely for-profit approach. Such a strategy might involve public-private partnerships; though to date the private sector appear too wary for such a risk-based approach, given the growing frequency of adverse weather events.

Shaun referred to his (2021) publication that offered a suite of strategies for government agencies to explore and adopt, as a means of better addressing climate and natural hazards.

The strategies are summarised here as:

1. Making improvements to modelling and projections of weather trends, events and thresholds
2. Development of more robust monitoring frameworks
3. Development and dissemination of user-friendly decision-making tools and resources to communities to help better prepare for natural hazards
4. Effective coordination between and across government agencies and communities
5. Increased integration of Māori worldviews and connection into natural hazard planning and preparedness

Awatere et al. (2021)

Awatere highlighted that their (2021) study recognised that Māori organisations could play a critical role in assisting to define climate risks and policy responses, as well as entering strategic partnerships with business, science, research and government to address these risks. Awatere discussed Judy Lawrence's (2023) research that highlighted how climate

change is exacerbating the frequency and severity of natural hazards events (Lawrence, et al, 2023, p. 500).

Awatere also referred to their research collaboration in Te Kōmata o Te Tonga the Deep South National Science Challenge (Owen, Letica, & Awatere, 2024). From this research, a set of statements and questions for policy makers was devised, to assist in shaping their responses to the needs of Māori communities in terms of increasing risk-based insurance pricing and te ao Māori in a time of increasing climate change.

For example:

Do not expect Māori and Pākehā groups to behave similarly in response to price signals. Particularly, be aware that due to colonisation, land titling practice and economic disparity, hau kainga are unlikely to want to, or be able to, quickly respond to high insurance price signals by relocating assets. Given this, the question is – how might future regulatory changes impact Māori? (Owen, et al., 2024, p.9)

Consider that Māori cultural infrastructure faces challenges in insurance when designing disaster resilience and relief policies. Consider that unlike private property, Marae complexes are not included in EQC or NHC policies and thus face the profit-driven insurance market when searching for insurance products. How will future policy in this space fare, given the lack of natural hazards insurance support for cultural assets? (Owen, et al., 2024, p.9)

Taken together, the work of Awatere and his colleagues provide an important overview of the impacts of climate and weather changes, the ways that Māori are or are not coping with these changes, and the role of government agencies, including insurance agents and the Natural Hazards Act (2023) in addressing those issues.

A community practitioner perspective

Ripeka Te Arani Read (Ngāti Hine, Te Waiariki) is currently enrolled in a PhD programme, looking at climate issues and Māori resilience. She has also moved back to her whenua, where she has built a home, while providing consultancy and advice to her local hapū community. She refers to the ways the tūpuna used mātauranga that can guide how we observe, understand and protect the environment, although observing something in a constant state of movement is challenging. This is where she believes the māramataka provides a first aid kit, as it is traditional knowledge, centuries old, and built upon by generations of interpretation and application. She sees her role as helping whānau to gain confidence and start to build more resilience, based on utilisation of the māramataka. She notes that, with almost every new storm, the whenua and people cannot handle the level of development that local councils want to be put in place. The zoning in district plans

often ignores the layers of history and knowledge attached to whenua that points to what it was used for so effectively over the centuries.

Ripeka found that those wanting to take that step of developing a home for their whānau on the whenua, sometimes holds negative perceptions of the local Council. They feel Councils have tried to dictate what Māori can and cannot do on their whenua. She believes Councils could do more to build more productive and beneficial relationships with Māori communities on their whenua.

One strategy includes access to the information that the Councils do have, such as the wealth of GIS data. While this can be extremely helpful when planning on building community areas, gardens, and waterways, it is not easily accessible to someone who does not hold technical expertise in that planning area. Another important way Councils could support local communities, not just Māori, is more and better advice on emergency planning, provision of emergency kits, access to sandbags and contact details for support in climate emergencies.

In terms of insurance, Ripeka feels that discussions among whānau can be overwhelming. She feels some isolated communities in the north do not see the value in insurance because they have other more urgent needs for their survival. However, providing more information in a more digestible and accessible manner is important. For Ripeka, financial literacy relates to the relevance of, and types of insurances, but also how communities can build financial and climate preparedness, for times of political and economic instability. Financially planning for inclement climate and weather events, as well as creating emergency savings and resources, are among the types of tools that could be invaluable in remote, isolated communities.

In terms of Toka Tū Ake NHC, Ripeka feels they have a role to bring together different organisations, and to develop tools and strategies for collaboration and cooperation. Alongside this, they could encourage government agencies to work more effectively with Māori to develop programmes for improving financial and environmental literacy, particularly those environmental protection strategies borne out of mātauranga Māori.

Wānanga findings

The experiences of the eight participants in the wānanga revealed a shared concern that Māori experiences of historic land loss and cultural alienation, are still impacting Māori in terms of adaptive resilience and being able to live in their culturally preferred ways.

Discussion highlighted three common concerns:

- Differences between Western and Māori approaches in how to live with nature and respond to climate change
- Systemic lack of accountability and the impact on Māori homeownership

- A need for greater education and activation of mātauranga Māori

Concern 1: Differences between Western and Māori approaches in how to live with nature and respond to climate change

Wānanga discussion reinforced the fact that there are signs in nature that every whānau and hapū recognises. These are connected to nature and are signs that reassure, warn or foretell of events. Participants spoke about how being in tune with those signs is still a practice of their people.

WP5: *There are messages. We are seeing tohu. For example, whāriki yellow flowers coming earlier and harakeke blooming at same time. Signs from nature are used to guide decisions. Rainbows, birds, insects, fallen trees, all these things can carry meaning and bring messages.*

However, examples were shared of how that knowledge is being interrupted. In some areas council management of natural resources has impacted negatively on whole communities of homeowners, as the following comment about changing water levels demonstrates.

WP2: *Climate change is coming at us faster than humankind is ready for. Some of it is our fault too. You don't change the flow of the river.*

WP6: *Where I am from in Hawkes Bay a third of my community was lost because the water came up. Our awa water levels are unpredictable. In some areas water in the awa has risen, while others are more empty. In my area the river has risen so high, a dam has been built and there is a marae there. If it continues to rise the marae will be under water.*

Participants shared their concerns that land development and industry are impacting negatively on the environment. Sedimentation is occurring because rivers have lost their natural filtration systems. Tāmaki Makaurau participants shared accounts of storm water drains collapsing and causing flooding in several central Auckland areas, such as Owairaka Mt Albert and Puke Tāpapa Mt Roskill.

WP5: *Development is changing everything. There is new infrastructure everywhere, but developers are not respecting or reflecting the puna in the area. Harakeke was our filtering system that grew everywhere there was water. That has been undermined and neglected for years. In Tāmaki Makaurau we have got storm water drains collapsing, unable to cope.*

Concern 2: Systemic Lack of accountability and the impact on Māori homeownership

The second concern centred around the consequences of systemic lack of accountability to nature and the impact on Māori homeownership. Responses highlighted a sense of displacement and lack of accountability. Whānau discussed different ways their whanau had been affected. There was consensus within the wānanga, that Māori understandings

of the land are often ignored. Also, that Māori are penalised by not being able to get insurance because of stringent rulings about land ownership.

WP6: *Why are we living in these flood zones and earthquake prone areas when we know how to live on our lands. We know the best places. So, when whānau build (on flood prone land) how is it they get council consent to build in these places, but you can't get consent to live on your own whenua because you can't get insurance.*

The experience of Participant 6 is an example of the difficulties Māori face in trying to develop housing on land that is communally owned, particularly if there are financial constraints for whānau regarding insurance. Currently NHC Toka Tū Ake does not provide insurance for bare land without an insured home on it. This is the only land insurance that is available in Aotearoa New Zealand, meaning you cannot buy additional cover for land through a private insurer.

Participants also discussed their perspectives about the scale of damage they have seen that is attributed to climate events. However, in their view a large amount of devastation they are seeing in their area, was caused by human impact on the land, which has impacted on their homes as well.

WP6: *Where I am from is a marae community. They have had cyclones and heavy rain and storms. Cyclone Gabrielle affected the community and the wider whānau. Mainly Pākehā build there (where it is most affected). Before it happened, I kept thinking 'why did they let them build their houses there!' A lot of rubbish that came down in Gabrielle – and after that too, destroyed our houses! Two years later, driving through (that area) now – I don't know what the council is doing but it has to do something! The council has a lot to answer to. All the slash that has come down and out into the waterways.*

WP3: *It is very disturbing to see what is happening. The timber companies have such impacts on the environment and to see the effect on the forest and the environment! They don't look after the process. So, these things are not caused by nature.*

WP2: *River patterns have changed; all the rākau that used to grow along the riverbanks are gone. Chopping the trees down affects the natural process of the roots filtering water but now it floods more often.*

WP5: *Harakeke was our filtering system that grew everywhere there was water. That has been undermined and neglected for years.*

The issue of gentrification of iwi occupied areas emerged. Participants discussed how land desirability in their areas has increased home ownership prices and insurance costs, creating affordability issues for those who want to buy in their iwi-based locations. Available land is becoming increasingly difficult to secure in areas such as Bay of Islands, in

Te Tai Tokerau (Northland participant) and in Te Mātau-a-Maui regions (Hawkes Bay participant).

An example was provided by a participant from Hawkes Bay. They whakapapa to an area that is situated on flat land on the Heretaunga Plains, of which over half of the population are Māori. A geographical feature of the township is Karewarewa Stream. Because of the temperate climate, free draining soil and the aquifers that are a feature of this area, it has become coveted land, sought-after for its agricultural suitability and the niche lifestyle it offers. The area is now considered to be a premium winegrowing area and is known as "The Triangle". This is creating suspicion of the government's motives for land rezoning among Māori communities in the view of this participant.

A second Hawkes Bay participant expressed a concern at the impact of not being able to live on the whenua and learn from the old people in the same way they did when they were growing up there. They question how the next generation of Māori will know how to live in harmony with the rhythms of their whenua, if there is nowhere for them to grow up, in the traditions of their people, the way they had.

WP6: *There is no more affordable land where I am from. Many young Māori are wanting to build by their marae there but there is no land. The town is divided in two distinct areas: The east side and the west side. West side is where all the home people live. Dams are built for people's needs, but these dams stop the flow of water to us and this impacts on our activities. Māori are smart. We know the lay of land. When the water comes, we move out of the way. But what about our young people? How are they going to learn that knowledge?*

Concern 3: A need for greater education and activation of mātauranga Māori

A need to activate and centre mātauranga Māori, as an approach that could help to restore a sense of balanced care for the land and for the people.

WP6: *These things are not caused by nature. It's the people. We need to have systems. We need Māori cultural advisors in every company. International business does not care about our people or our resources. There is no plan for restoration. There should be economic give back for what is taken. Government policies are also at fault. Is this a break down with Māori owners?*

Participants advocated for insurance services for Māori that include the provision of Māori cultural advisory expertise. Participants spoke about the need for more education.

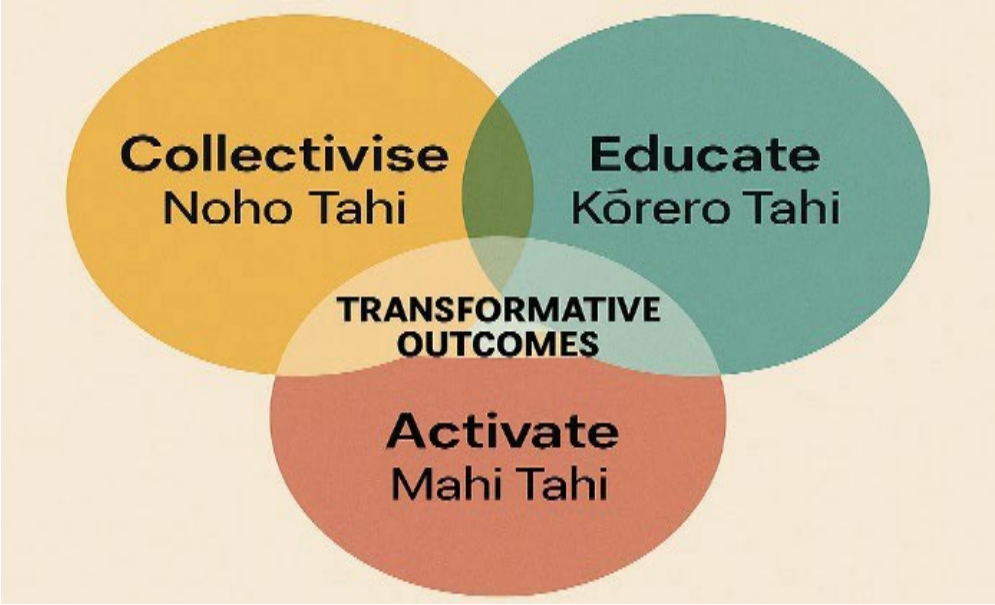
WP3: *We need to establish Tohunga Mahi Whenua and Tohunga Mahi Wairua roles and establish a Māori body of kaitiaki: Tohunga mahi whenua: to be carried by those who understand the nature of the land and how to work with it. Tohunga mahi wairua: to be carried by those who can lead and participate in the restoration of mana and mana motuhake.*

Participants also spoke about the importance of education to support Māori to retain, and in places regain their mātauranga. There are a number of initiatives happening amongst iwi that one participant felt should be more accessible to all people. There is also a sense that Māori leadership is needed to activate that knowledge.

WP2: *Education is so important. Some whānau have already put a plan in place based on whānau relationships – how do we bring people together when we are not a village anymore? How do we re-learn to listen to our tohu; how do we empower our leaders; how do we get the message out.*

Through the wānanga process, a model for raising community awareness was realised that includes bringing people together for a specific take or issue (collectivise). Education occurs as people share their insights and understandings, bringing to the surface the knowledge they need, to address the take or issue at hand. In the next step (educate), engaged people identify the strategies they need to advance or achieve their objectives. They are then in a position to work proactively (activate), to implement their goals and improve conditions for their community.

Figure 1: Community transformation through a process of collective action



An Empowered Actions model of three principles:

Noho Tahi – Collectivise

> Whakakao, huihuinga, kohikohi, whakawhanaungatanga – (come together, gather, meet and affirm connections)

Kōrero Tahi – Educate

> Mātau, mōhiohio, rongorongo, aroā, ako, wānananganganga (educate, develop understandings, listen, extend knowledge, learn, raise awareness)

Mahi Tahi – Activate

> Mahia, whakatinana, waihanga (build, create trust, generate, develop and construct)

The overlapping circles represent transformative outcomes that occur through purposeful engagement, knowledge generation and empowered actions.

During wānanga, transformative outcomes were discussed as part of a research and education imperative for Māori. This would include a positive impact on hauora, which will also support hapori to heal. This process may also facilitate a process of self-determination for hapori and has the potential to at least facilitate a restorative conversation, by providing a platform for Māori homeowners and insurance policy holders to be heard, regarding the systemic barriers they encounter. In terms of the current project, this model offers an approach that may be of service to NHC Toka Tū Ake as they seek to improve services and relationships with Māori homeowners and insurance policy holders.

Discussion of Wānanga findings

The findings from the Wānanga shines a light on the fact that whānau Māori feel the most empowered by being able to live independently and manage through their own events based on generations of living in and alongside nature. Uninsurable properties, dangerous post flood debris and sedimentation emerged as issues Wānanga participants and their whānau were dealing with. Participants felt that greater crown accountability to the public is required. The emotional impact was discussed which showed that socio-historic factors were entangled with human activity on the land and that was bearing down on Māori communities.

Participants provided examples of how people's lives are affected in their communities. Changing water levels, weather pattern changes and human activity impacting on taiao emerged as the most observable changes for Wānanga participants. Evident through responses, is the fact that changes were observable to participants across regions, hapū and whānau. There are certain knowledge sets that are general mātauranga that all people know. However, in relation to 'codifying knowledge of the physical and metaphysical', this

mātauranga resides with the hapū and iwi. People respect tohu-a-taiao, signs from nature and their localised interpretations of them. Participants spoke of the lessons we can gain from looking at how our tūpuna adapted to changing conditions of this land. Concern was expressed that mātauranga Māori is being overlooked and this is affecting the balance of nature.

There is a voice coming through that people are aware of how environmental issues are affecting premiums, and of systemic issues related to insurance policy that do not align with Māori insurance needs. But there is nowhere to go, to get more information or support for the issues and concerns they have. One of the biggest concerns raised by participants in the wānanga was the nature of events that impacted on their whānau. Matters such as overflowing storm water drains unable to cope (Mt Albert), polluted and backed up flood pipes (Mt Roskill), slash in the rivers (Hukarere), dams bursting (Heretaunga, Te Wairoa), were highlighted as examples of damage sustained to homes that were not the result of natural hazards events, but the result of human activity. All these things are pushing insurance costs up for whānau, making it increasingly difficult to gain access to insurance. Feelings of mistrust have emerged. The threat of becoming climate refugees in one's own land causes a sense of mamae-ā-wairua, pain at a deeply spiritual level. The wānanga revealed a sense of being future focussed; of wanting to be involved and of a conviction that mātauranga holds the key to better outcomes for Māori and potentially all New Zealand residents. This is consistent with key findings from the literature review.

The Wānanga process also revealed that a transformative change process occurs when people have the space to come and gather together for a specific purpose (Collectivise or Noho Tahi). Knowledge is generated through a process of sharing mātauranga and experiences, perspectives and expertise (Educate: Kōrero Tahi). It is here that actions are decided, objectives are set, direction becomes clear, informing a way to mobilise and a subsequent pathway forward so that everyone is sure of direction, agreed actions and responsibilities. Through this process the community can take empowered action to achieve their goals (Activate: Mahi Tahi). This also shines further light on the benefits of wānanga as a method of working in hapori based contexts.

A system of kaitiakitanga involving strategic appointments of Māori partners who have knowledge of tiaki whenua and partners with knowledge of tiaki wairua, was proposed. This constitutes a te ao Māori based collectivist approach to ensuring that Māori spiritual understandings, whakapapa ties and principles are valued and practiced.

The wānanga highlighted that the wellbeing of the land is of central importance to Māori and needs to be understood holistically. Failure to show kaitiakitanga on the part of the government and developers causes a loss of trust amongst Māori. It was also highlighted in the literature, and through expert interview with Shaun Awatere, that land and people are

inextricably linked. The wellbeing of the land will be felt by the people. Therefore, trust that the needs of the people are taken care of – manaaki tangata – may be undermined when people act in ways that undermine the wellbeing of the whenua.

The opportunity to speak with whānau from a range of areas, who related the realities they experienced first-hand, provided a community voice for the areas they represented. This helped the research team to understand the impact of natural hazards events occurring in a range of areas, and ensured they were prepared with appropriate support, for potential participants in Kōrero Tahi.

Kōrero Tahi, Individual interview findings

This section presents the findings from Kōrero Tahi face-to-face semi formal interviews. Participants in the kōrero tahi came from areas that have strong representative Māori populations.

There was a total of 13 participants who came from the regions identified in Table 1. All participants in the kōrero tahi were homeowners.

- Three participants were from Te Tai Tokerau.
- One of the participant interviews from Te Tai Tokerau was undertaken in a group hui with three members of a whānau who lived in and owned their own homes on shared family land listed under Māori freehold land title. Although there were three whānau members present at the interview, there was only one speaker, so this was counted as one participant.
- Two participants were from Tāmaki Makaurau.
- Two were from the Waikato region.
- The remaining six participants were from Te Matau-a-Māui.
- One participant was a long-term mortgage-free homeowner with an individual home situated under general land title. They had their insurance policy cancelled by their insurance company.
- One participant owned their own home on collectively owned Māori free hold land. They could not afford housing insurance but also did not believe in insurance.
- One participant owned their house on collectively owned Māori land. They had their property surveyed out into general land.
- One participant was in an area where the whole community could not get access to insurance because they were on non-rateable land.
- One participant had recently had their property rezoned ‘flood-plain’. This has pushed their insurance up and has made their land untenable for the purpose of future whānau development.

- One participant took over the ownership of an intergenerational home built by their grandfather. The house was in her name, but the insurance policies were never moved over from the parents to her name.
- The remaining seven had standard insurance policies on general land.

Demographic information of each area as at June 2024 (Stats NZ, 2025), provided insights that each of the areas identified, has a young Māori population compared with the median age range (Table 2).

Table 2: Demographic information showing the Māori populations and median ages of research participants' communities

.	Total Regional population	Māori Population	Regional median age	Māori median age
Te Tai Tokerau Far North region	73,500	35,679	44.3	31.2
Te Tai Tokerau rural Whangārei district	29,900	6,894	45.2	30
Tāmaki Makaurau Upper Harbour local board region	84,600	4,713	36.7	27.3
Tāmaki Makaurau Manukau region of Manurewa	108,900	24,858	31	26.8
Waikato District	90,600	23,088	38	27.1
Te Matau-a-Māui Wairoa district	8,920	6,048	38.6fin	31.3

Table 3 shows that whether living in urban areas or around their papa kāinga, participants in this study reported that climate related issues are threatening not just their housing, but their lands and their livelihoods. Those living in flood prone areas reported that they are

either under-insured or uninsurable. The following table provides a summary of natural hazards related issues by area.

Table 3: A list of regional hazards issues in research participants' communities

Region	Regional Natural Hazards Issue
Te Tai Tokerau (Northland/ including far north and rural Whangārei)	Increased droughts Rising sea levels Flooding Stronger storms causing erosion
Tāmaki Makaurau (Auckland)	Coastal inundation and flooding risks due to sea-level rise Heatwaves More frequent extreme rainfall events causing slips
Waikato	Increased flood risks along the Waikato River Droughts affecting agriculture and horticulture Threats to wetlands and freshwater ecosystems
Te Matau-a-Māui	Increased risk of heavy rainfall events causing slips, erosion and flooding Drought conditions Coastal inundation and erosion Increased flood risks Silting

Table 4: Findings from kōrero tahi

Theme	Issue	Impact	Suggested improvements
1. Environmental Impacts & Climate Change	Storms, cyclones, erosion, rezoning, deforestation, climate shifts, industry debris	Flooding, isolation, road damage, resource impacts, increased hazards	Calls for coastal protection, accountability for farming/industry, climate adaptation measures
2. Insurance Challenges	Insurance risks: High costs, exclusions, delays, poor communication; land rezoning	Many whānau uninsured or underinsured; loss of confidence in insurers	Support for Māori-focused, mitigation-based models; iwi-inspired insurance education; Explore compulsory baseline coverage

Theme	Issue	Impact	Suggested improvements
3. Housing & Infrastructure	Strict council rules, rezoning, poor drainage, weak infrastructure, high density housing Rural areas disadvantaged in resource allocation.	Papa kāinga development blocked; homes at risk; elderly displaced, land affordability and availability	Whānau designing resilient housing; calls for better council accountability and infrastructure investment
4. Community Resilience & Māori Leadership	Capabilities of local marae to reach affected communities undervalued	Faster local response than government agencies; gaps in official support	Marae as first responders; creation of community-led emergency hubs; iwi-led advocacy
5. Traditional Knowledge & Colonisation	Loss of land, colonisation of farming systems, disconnection for urban Māori, no recognition of Māori approaches	Reduced traditional resilience; homelessness; environmental degradation; wellbeing impacts	Reviving mātauranga Māori (ancestral practices, relocation hubs, communal resilience); strengthening kaitiakitanga
6. Policy, Governance & Accountability	Poor civil defence warnings; council inaction, poor communication and warning systems	Trauma from inadequate warning systems; communities left to cope alone	Co-governance, Treaty-based decision-making; Māori-led, iwi-driven solutions; demand for accountability
7. Education & Preparedness	Lack of insurance and financial literacy; poor communication from insurers	Whānau unaware of entitlements, risk of underinsurance; generational gaps	Education on insurance/legal systems; financial literacy; community preparedness (emergency kits, risk awareness)

The data were collated into a findings table and analysed thematically, resulting in the identification of three key themes:

1. The systemic factors that impact homeowner insurance for Māori
2. The socio-ecological factors that impact on homeowner insurance for Māori
3. The factors that enhance Māori adaptive resilience

Systemic insurance factors

Insurance challenges

Participants expressed concern over the lack of available information regarding natural hazards insurance and how natural hazards and dwelling insurance works.

Te Wairoa 5: *So many of our whānau in town got ripped. And that's the ones who were insured. We need to have something that breaks it down. I am insured, but there is nothing to state what I'm entitled to tap into. I don't know if that's my ignorance for not actually learning about that stuff. But, you know, you pay all this money every week. You just expect to get it back when you need it. And so many of our people didn't push back on the amounts they were offered. They didn't know they could. Or didn't have the kaha; I am not sure.*

A lack of awareness of claims entitlement under the terms of their policy is putting a financial burden on policy holders, particularly those in remote and rural areas, who needed to tend to debris and securing their properties.

Waikato 1*: It was a financial cost for us during Gabrielle, having three trees come down… It wasn't until I did the last three with the arborist. I was talking about what had happened during Gabrielle and he asked why I hadn't put in a claim. So, I could have got support, but I didn't do it because I didn't know about it. And we just paid for it out of our savings.*

A lack of insurance awareness has implications for building consent processes for Māori, compounding the barriers they face.

Te Tai Tokerau 2: *Building without consent; well, that's the key really for Māori you know. And that's a big stumbling block because it means that council won't give you resource consent unless you have insurance or even give consent retrospectively. You must have insurance cover first. It's Catch 22.*

It was this lack of awareness that resulted in a participant living on privately owned general land in Tāmaki Makaurau having their entire housing policy cancelled by their insurance company, when they phoned to explain they were doing deck extensions and wanted to extend their cover. The insurance company refused to provide extra time for them to apply for building consent and instantly cancelled their entire housing insurance policy. They were in the middle of the extensions, and it became too stressful phoning around other insurance companies.

Tāmaki Makaurau 1: *We now have no insurance if something goes wrong. There are also mortgage implications. Now that we have a mortgage, we needed that level of assurance. Insurance and banking are not there to serve us as their customers.*

This participant looks positively at what it has taught the family in terms of being more aware of housing security and taking better care of their belongings. Of concern for them is

that the family is also responsible for their grandfather who, by default, is now also living with financial risk if anything occurs.

Insurance education for new occupants of family-owned homes

Young Māori householders are having trouble accessing insurance support. Limited awareness of insurance requirements when assuming occupation of family-owned homes, highlights a gap in insurance support for Māori homeowners in this category.

Te Tai Tokerau 2: *Housing, insurance, contents insurance – all those things are really all similar. But who is responsible for it when the home is a family home. When shareholders have their own trusts, then we are. But then the bank made it difficult for us to increase the insurance to make sure that the house was covered if anything should happen. They highlighted all these different loopholes that are under insurance policies – you need to make sure you read them really carefully!*

This highlights a need for transitional support and insurance education for new occupants of family homes that are owned intergenerationally and handed from one family member to another.

Participants also reported difficulties gaining access to insurance support for people who own homes on Māori collectively owned land or in a multi-owned family house.

Te Tai Tokerau 3: *Having a practical guide for homeowners, especially homeowners who are surrounded by Māori land or trust land that has licenses to occupy, because there really wasn't any kind of straight forward guide.*

Affected participants identified the need for practical educational resources. This was a consistent theme amongst participants who discussed the difficulty of knowing how to apply for insurance support for occupants of family-owned homes.

Te Tai Tokerau 2: *A lot of people do not know what their insurance is getting them. That hasn't changed. For me, that is the biggest problem. The people are all keen because they know they need to have insurance to ultimately protect them if something should happen. But then they get turned down when they put their claims in because there is a little clause that says, "you didn't declare this or you didn't declare that".*

Poor communication and follow up

Flood affected participants from Te Wairoa reported that phoning insurance companies was one of the greatest stressors. For some, it took days for insurance assessors and support services to arrive. For participants who resorted to starting the clean-up themselves, that became a financial cost to them and became an issue for some assessors, who queried the extent of the damage. Participants in Te Wairoa pointed out that local marae and iwi trusts such as Tātau Tātau o Te Wairoa Trust provided faster, more effective

responses than councils or government agencies. Frustration was expressed at council intervention that slowed down the marae ability to provide the support needed in some areas. One participant pointed out that in rural areas it is often the community who provides support.

Te Tai Tokerau 1: *In remote communities that don't have access, you have to deal with it yourself. Because a lot of support is provided to populated areas like Whangārei. A lot of resources go to that area-where the high populations are, whilst we are on the outer because we're smaller populations. So, the community just does what we can.*

It is significant that participants from different regions reported this fact showing there are systemic issues for remote areas in terms of disparities in response rates and access to resources between densely populated and remote areas.

In another example from Te Tai Tokerau, participant three walked away from the claims process because of the protracted process.

Te Tai Tokerau 3: *It was frustrating dealing with the insurance company. It took a long time to process any sort of claim. At the end of the day, it was going to take too long to get coverage on most things. And there were too many delays. And so, we took the repairs into our own hands. We tried to lodge a claim ourselves, but honestly it was hōhā dealing with them.*

This participant is now considering cancelling their entire insurance policy and focusing on the mortgage, largely based on dissatisfaction at the lack of insurance support when it was needed.

Te Tai Tokerau 3: *How come you're not getting any sort of return from your insurance?*

Dissatisfaction with assessors

Participants across all regions reported challenges with their insurance providers, who, in a community emergency initially couldn't reach claimants to assess the damage due to weather issues. Policy holders were instructed to take photos to document the damage. However, as participants reported, some items were still missed. By the time assessors did arrive, the damage was either too advanced to save, or the water had subsided and the assessors were dismissive of their need.

Te Tai Tokerau 3: *The insurance company said they were going to send an assessor out. But then the assessor did not want to come up here because it's up a hill. It's quite rural. They were worried as well about the livestock roaming free. They had a few insurance claims with some livestock that had come in around that time as well, where some cars hit the livestock in the middle of the night. So, there were a lot of hazards for them trying to get up there. But*

that fell on us as well. And in the end, we decided to do it ourselves if it's going to take this long.

Lengthy delays in insurance assessors' visits, particularly in rural areas, post-event resulted in further damage to flood and storm affected dwellings, prolonging the disruption period and exacerbating the trauma of the experience for affected participants in this study.

A further challenge for Māori homeowners was the inexperience of assessors who were sent to assess their homes. Some owners had to challenge assessors' decisions after the floods hit their areas. During the Te Wairoa floods, houses were allocated red, yellow or white stickers according to the damage caused in the initial assessment visit. In Te Wairoa participant 5's case, this was conducted by a council staff member.

Te Wairoa 5: *The first council lady came and, because it was 10 days later and we had had the dehumidifiers going, and fans going and the fire going 24/7, on the surface, it looked dry.*

So, she didn't go through; she just came into my lounge. And then she said, "I'm not going to sticker you, because it looks alright. You should be able to get through this. There are a lot worse than you". And you know I get that. And then insurance wanted to know what sticker my house was. I'm like, "what sticker? She won't sticker me!"

So, I had to phone council and challenge that. Then I got another lady come and she went in every room She tapped a piece of wood in the hallway. Just lightly tapped it with her boot, and it went through the wall! Yeah, and she was like, I "don't know why you were not yellow stickered on the day". So, then I get yellow stickered, and I am still yellow stickered! And then I had to go through all that again when the first insurance assessor came out!

Questions over whether the damage was fair wear and tear when it was accepted the house had flooded, added to stress. These kinds of experiences caused a number of participants to question the point of having insurance at all.

Te Tai Tokerau 3: *We got more questions (from the assessors) about what wasn't in the house prior to the flooding than what was in the house when the flooding happened. They said because the house was built in the 80s, that it was more wear and tear than flooding. It was hōhā – for Mum and me, frustrating. After three to six months of it and nothing's getting better. We did get a claim number, but it was too much dealing with it.*

The factors that enhance Māori adaptive resilience

The data illuminated a range of factors that enhance Māori resilience to addressing natural hazards.

Project management issues

A lack of project management was also identified. Participants identified a need for greater checks and accountability measures to ensure the work that is paid out on, is appropriately assigned and coordinated.

Te Wairoa 3: *I know one lady who is still not in her house now. Temporary housing put her in Gisborne! She had builders but she couldn't come and check on what they were doing because of the distance and the roads. And these builders took the money and haven't done anything.*

Wairoa is a small and well-connected community, aware of the challenges people in their area were still facing two years after the event. Discussing experiences and what might have eased the situation somewhat for them, one participant made a surprising comment about what would have improved their experience:

Te Wairoa 5*: Some humanity! Not one person said to me – and I am talking insurance, council, the tradies – not one person said to me, "How are you? Sorry, this happened to you!" You know.*

Insurance premiums

Several participants in this study spoke about the prohibitive cost of insurance. Fear of increased premiums is an issue for some participants, who avoid engaging with insurance claims to try and maintain a level of everyday economic stability and affordability.

Tāmaki Makaurau 2: *Our mindset is that once you start applying, your premiums go up. So then because we don't have the money to fix things anyway – it just stays broken.*

This reflects a structural financial barrier. There is also an education issue to be explored to address the feelings expressed by this participant of 'just not knowing where to start' in a claims process. When asked how often they had contact with their insurance company, this participant's response was consistent with others.

Tāmaki Makaurau 2: *Hardly ever. Once a year we get an email, insurance due'. That's it really.*

Participants across all regions also indicated that there was very little contact from their insurance companies, apart from policy review and premium increase letters.

Conflicting advice compounded feelings of mistrust and confusion at a time when reassurance was needed for Te Wairoa participants.

Te Wairoa 5: *It was all dependent on who you got. And all sorts of different places: You got different stories from them all. You got a different story on funding from every person you spoke to: First I got told "Right now we're not giving out that funding." And the same day*

someone else is contacting me saying, "hey, you need to sign up for this funding." Then someone tells you that you need to sign up for this other funding, you know, because 'it's going now'. That sort of thing. So I say 'But I just rang and they said it's not even happening'. 'It's happening. I just put people on to the funding'. So it was all that sort of confusion too.

At a time when people are struggling to take in the magnitude of events such as what occurred at Wairoa, these sorts of experiences can diminish confidence even further and may work to prolong the effects of trauma experienced.

Socio-ecological factors and barriers

Environmental degradation

Participants identified that they are facing new and increasing challenges based on the result of human activity. Traditional mitigation practices employed, such as making use of different parts of the land during wet periods, are no longer possible.

Te Tai Tokerau 1: *Now, you can't just pick your house up. You can't pick all your possessions up and head for higher ground. But we would have.*

For participants with land interests in multiple areas, the impact of environmental change was varied and at times amplified by a combination of environmental changes and human activity. One such example was provided by a Waikato participant who also has whakapapa ties to the Taranaki south region, where their marae was badly flooded in 2023.

Waikato 1: *A lot of what happened also speaks to some of the root causes of the problem because our environment has been changed through colonisation. And often because we are so supportive of subsidising commercial farming (in this country), they benefit at the expense of our marae. And what that has meant for our whaea there is that their insurance has doubled. And some homes on their papa kāinga – like our homestead here (in Waikato) is no longer insurable. And we've had to argue about why.*

The impact of this scenario was both economic and environmental for this participant. However, there is also a socio-historic impact at play as Māori experiences of colonisation are being tested, and revisited, across multiple planes. They also spoke about the negative impact of their land being rezoned to flood-prone, which included the rising cost of dwelling insurance.

Waikato 1: *My insurance rates went up as soon as they rezoned. We were very fortunate to have a quarter-acre section that would have been an ideal spot to put a small house on as we looked toward building our papa kāinga. We can't build there at all now. Well, we could, but the costs to insure it would be prohibitive. When it was rezoned, I did actually put in a*

submission to it. I don't know where that went. But nowhere probably, because nothing changed.

Erosion due to coastal inundation is also impacting burial practices in coastal areas. Māori traditional practices related to ensuring that koiwi (the bones of the deceased) are not disturbed, has come in to focus in areas that have been heavily hit by storm events.

Te Tai Tokerau 2: *Where I am from there have been a lot of koiwi that have been swept out onto the beach already. When my brother was alive, he was contacted when a koiwi was found. He buried the koiwi up in our wāhi tapu. He noticed that the erosion had really impacted that side of the bay as well.*

Lack of accountability

Some participants in this study were affected by the slash (forestry waste), that affected their community during Cyclone Gabrielle. Others are living in areas that are now prone to flooding due to greater density of housing with inadequate storm water drainage. Some participants felt there needs to be greater accountability so that companies and commercial enterprises are liable when community and hapū resources are affected.

Te Tai Tokerau 1: *Even the forestry – why aren't they insured to negate these problems (slash) that they've caused when things go wrong! I mean even like the District Council here taking all the water. Yes! They should be ensuring something for the future when things go wrong. Be held accountable.*

Participants in the Te Matau-a-Māui region also spoke of the damage caused which they felt could have been avoided if the Council had undertaken to keep the culverts in their area clear. Speaking of the floods they had in the region prior to the Gabrielle floods, a participant shared their experience, where they sustained damage to their property and lost several large appliances and whiteware that were impacted by blocked drains that had not been maintained in their area.

Te Wairoa 2: *The main outlet that took all the flooding water was totally blocked by a tree branch, and that was what blocked all the water. This is another Council thing they haven't been doing. When the tide comes in at a certain height, it blocks the outlet that takes the overflow. So that's why it was all back trapped and flowed into all our backyards. The whole street, we all got flooded, you know. Our backyards were at least waist deep for some of us.*

This participant reported having issues with ongoing insurance of her property because of the tilt of her driveway that they feel council should be accountable for. They were further affected by the flooding that occurred when Te Wairoa River burst its banks in 2024.

Te Wairoa 2: *Now the issue is I might not get insurance if this continues all the time. So, I've got to do something on my own land to fix the problems, so the overflow doesn't go into my*

double shed. I think the Council should be made to upgrade the footpath that I say is going off into my land. When the water filled up this day, it was all seeping underneath my house, and it took away quite a bit of sand and land stuff (when it receded), so I need to talk to them about that as well. I didn't look at it like that until I looked under the house.

These examples provide insights into the frustration experienced by Māori homeowners due to ongoing and unresolved insurance issues they are facing resulting from inadequate or poorly maintained infrastructure. In the case of Te Wairoa participant 2, drainage and storm water systems become overwhelmed during natural hazards events. This is an issue experienced across all regions interviewed. Participants strongly advocated for greater accountability, demanding that companies be held liable when community and hapū resources are affected.

Costly clean up processes

Some participants showed a resolve to manage their own clean ups. There were several incidents of people who shouldered the financial responsibility of cleaning up after a natural hazard event such as this example from Te Tai Tokerau participant 3.

Te Tai Tokerau 3: *To be honest, we're a bit whakamā with that. Our thoughts were 'You know what, insurance isn't doing their job. Let's just DIY it ourselves.' So, me and Mum ended up picking up all the carpets, ripping up all the edging for everything. We chucked it into a big bin and put it in the back of our four-wheel drives and dumped it in the dump. And we didn't find out until the third lot of dumping that we could claim it back. So, we paid for all of that out of our own pocket.*

Oho mauri-trauma manifested in different ways and is not something that participants spoke about in the initial stages of interview. Some did not want to frame their kōrero up that way, others were able to speak reflectively about their experiences. However, it is clear from the accounts they shared that participants were trying to work through difficult legal processes whilst experiencing the effects of devastating loss and upheaval.

Loss of Trust

Responses indicate growing disillusion and a lack of trust in insurance processes. Some of this is based on lived experience. Māori participants report concerns at how other Māori communities were left stranded and are still dealing with lengthy settlement processes and council responses that have not provided peace of mind or sustainable solutions, as in the case of Te Wairoa. Responses from the participants interviewed show a deep empathy for the tribes and communities most affected.

Te Tai Tokerau 1: *First, I can't afford insurance. But I also don't really believe in insurance. We need to think about the future of insurance. It's going to be quite different, I think. If you look at insurance, look at the earthquakes in Christchurch and on the East coast down there.*

Insurance didn't really cover everything. All the problems they had to go through; it didn't guarantee that you're going to have a home exactly where you were anyway. It just puts you back in time you know. So where do you live in the meantime? And quite often they (insurance companies) can't pay out, and they are reliant on central government to pay out- to fill in those gaps.

Impact on Wairua

The impact of events that precipitate the need for people to make insurance claims is usually traumatic. This came into sharp focus when speaking with participants from Te Wairoa who had been through Cyclone Gabrielle in 2023. The town was still recovering from when the Wairoa River burst its banks, causing massive floods that hit the region in 2024. Many policy holders in this region have still not been able to return to their homes. The range of emotions people reported after the Wairoa floods was vast and varied, from shutting down completely, to being numb, to rage and disbelief. Participants reported feeling displaced and lost; many who either had whānau or community support, mentioned the gratitude but also the guilt they felt at having somewhere to live while others still do not.

We often understand the community impact and the immediate impact in the aftermath of natural hazards events. What is less obvious is the long term and lingering impact. Travelling to Te Wairoa 10 months after the floods to interview participants and witness the devastation, still so evident, highlighted the impact on communities hit by disaster. The ongoing disruption through homelessness, and lack of storage facilities to secure retrieved possessions was a concern for people who felt whakamā that they had to ask whānau – many of whom, participants stated, were already at capacity, for further support.

Te Wairoa 5: *I really had to start working on the little stuff that I could save and packing it down and getting it moved. But then where was I going to move it? Because, you know, two floods in two years there was no storage anywhere. Everybody that had storage after Gabrielle is now full with this flood. So very stressful.*

The range of emotions and the sheer will of the people in that area to remain future focused, provided a glimpse of how dehumanising the aftermath of natural hazards can be if people are not provided the correct support to recover and to feel seen and safe. As time goes by, resilience could be supported and bolstered through some level of understanding of trauma-informed customer care and service provision.

When discussing the future of insurance, a number of participants could not see a future in it for them because their experiences have been of exclusion. Trust in the system to take care of their needs is low. Since Cyclone Gabrielle, some participants are questioning the point of having insurance at all. Various examples were provided both in the research

Wānanga and in Kōrero Tahi about the impact of industrial activity, which contributed to the devastating aftermath of floods and soil erosion in participants' properties and their communities.

Participants in Te Wairoa experienced abandonment in several ways, including being abandoned by trades people who 'took the money' but have still to complete the job in cases the researchers came across. This suggests more stringent accountability measures are required to support claimants who, as in the case of Te Wairoa, have very few options for relocation. Other issues participants across all regions reported, included theft from their properties, which added to the trauma and further diminished trust in the insurance process for Māori homeowners.

Local leadership

One participant has developed a central hub on their family-owned land for local shareholders to congregate in extreme weather events. Based on traditional practices, their vision is to develop a similar community hub to create greater community cohesion, independence and awareness of climate related issues.

Te Tai Tokerau 1: *Having a hub for community – Pākehā and Māori, coming in and being aware, that is what this is about. The way we have the project here is for the people. It is to make the area strong and to bring resources in.*

There is support for this:

Te Tai Tokerau 3: *I feel like there should be some sort of resources tailored to those smaller communities. I feel that this disaster (Cyclone Gabrielle) did come back down to community support. Everyone was supporting each other.*

In another example, an organised roading committee run by the community shareholders has been established to mitigate poor roading and access vulnerabilities faced by their community. Monthly community newsletters keep people up to date. This is a hapū based and generated initiative that is future focused and places care for the people alongside land development.

Te Tai Tokerau 2: *It's about making sure we leave what we have in a better state than we found it for those who are coming behind us.*

Te Tai Tokerau participant 2 identified that despite systemic issues, barriers, and lack of council support, they will continue to build on their land. However, they are rebuilding in ways to mitigate the environmental changes they are experiencing in their areas.

Te Tai Tokerau 2: *We already know that those are the risks that we take. But we take those risks ourselves rather than rely on insurance companies or in our case even councils because you know – they do zero for us. Because of our Trust requirements we are just rebuilding on*

the same site but we're going up. So, the floors are now going to be all concrete. So that mitigates that. We won't get flooded anytime soon because we're further enough back, but it doesn't mean it won't happen if we don't do the initial mitigation.

Support for community education initiatives

In a densely populated urban area of South Auckland, various community-led projects are focused on development and empowerment. They are being developed by local urban Māori who have grown up in and are passionate about their communities.

For example, Tāmaki Makaurau participant 2 shared that they live in a whānau-led community who now employ community-based risk mitigation strategies, including securing decking, trimming trees, and checking on elderly neighbours whenever there is a natural hazards warning.

Tāmaki Makaurau 2: *We also make sure that we have everything screwed down. We've got our trampoline enclosed on purpose. Our trees act as a buffer.*

These actions demonstrate cultural strengths and adaptive resilience, often overlooked by institutions. Such approaches embody manaakitanga and whanaungatanga, values core to Māori well-being, yet invisible in insurance assessments or pricing as pointed out by Tāmaki Makaurau participant 2:

It would be nice to be rewarded for not needing insurance because, you know, it means you are doing something right (laughter).

This participant highlighted plans for financial literacy initiatives aimed at increasing economic resilience through community education. Additionally, there are targeted initiatives to support rangatahi Māori in developing literacy skills. They spoke about these and other community education initiatives they want to develop to support what they termed ‘financial literacy as ‘democratising knowledge’ because they are aimed at supporting the community to be more economically resilient. They spoke about the transformative potential of collective community education projects to broker greater financial literacy. They provided an example of a local Manurewa resident who has been supporting people for over ten years to read and understand their rights and responsibilities, in terms of utilities and bills, and what they can do to minimise or reduce outgoings.

Tāmaki Makaurau 2: *To truly address insurance inequality, both industry and government must work alongside Māori, valuing not only financial inputs but cultural practices, lived realities, and local leadership. The solutions exist — they just need to be resourced, respected, and scaled.*

Whānau support

Participants in hard hit areas had to work through difficult systemic issues and legal processes while experiencing the effects of devastating loss and upheaval. Having a sense of responsibility for whānau was a strong motivator for some to keep looking forward, even though the negative effects of their experiences are still impacting them.

Te Tai Tokerau 3: *The emotional trauma that you get from it. My mum and I had a good kōrero about it. It was more like a fight or flight response. Because the kids were young at that time, you just have to do it. But now that we look back on it, we didn't realise – how do I say it? (pause)… we didn't realise how traumatised we were by that. Like even now when it rains, it's a big deal for us to try and see the bright side of things. In some ways it's a good thing. It's kept us on alert, making sure that we're safe. Our kids are safe. But at the same time, every time it rains, we shouldn't have to worry in the back of our heads. 'Oh, no. This is going to happen again.'*

Participants also showed a deep connection to their whenua, and commitment to maintaining kaitiakitanga to ensure sustainability for future generations.

Te Tai Tokerau 3: *Our purpose is more than just gravel and gates — it's about manaakitanga, whakapapa, and protecting the ability for current and future generations to return home.*

The wellbeing of the land determines the vitality of the people. The practice of kaitiakitanga requires attention to both. A duty to ensure sustainable futures for future generations is a critical consideration in the decision-making processes of Māori, demonstrated by the responses from both the Wānanga participants and the Kōrero Tahi participants.

Discussion

The accounts provided by Māori homeowners who participated in the Kōrero Tahi in this study, have highlighted a range of systemic and socio-ecological barriers and challenges they face gaining access to insurance. This was reinforced by participants in the research wānanga as well as the literature that shows Indigenous people are facing further barriers to being able to access insurance resourcing stemming from land laws imposed on them by a colonial legal system, that further alienates them from their lands (Iorns & Godfery, 2024, 2025; Whyte, 2017, 2020). Māori are affected in multiple ways because current insurance systems do not align with Māori approaches and worldviews.

Single owner insurance models also pose obstacles for Māori homeowners living away from their tribal lands. Māori homeowners may no longer live in collective dwelling arrangements such as marae or on collectively owned land. They are just as likely to be living in township communities. The findings indicate that Māori homeowners living in

private residential properties may still be living along the lines of whānau: many generations of a whānau may be occupying an intergenerationally owned family home that is not occupied by the registered owner. As reported in The Extreme Weather Research Platform (2024), current insurance policy does not support whānau-based, varied ownership living arrangements. The variety of Māori homeownership models indicates a need for digestible information related to insurance criteria and eligibility for Māori homeowners relevant to a range of ways Māori own and occupy housing.

There is a call coming from Māori communities for financial literacy and education for their young people, so they know how to interpret legally binding documents, such as insurance documents. The fact that Māori policy holders are asking for this information is an indicator that ambiguity around insurance entitlement is a barrier. Complexity of insurance policies and lack of transparency and digestible information around claims entitlement is a disincentive for Māori landowners, who voiced their concern to remove current barriers for the next generation of young Māori who will one day assume kaitiakitanga for ancestral whenua and intergenerationally owned homes. The implications of this are at both policy and systemic level. At policy level, flexible insurance policies that insure the home and not the individual, may assist to mitigate the immediate barriers to accessing insurance that exist for Māori at individual level. At a systemic level, it is concerning to note how many participants internalised the complexity of understanding insurance as their own lack of ability to understand. This could act as a barrier for Māori. Insurance is often touted as 'peace of mind' policy. Participants in this study have highlighted that the mechanism of insurance is so complex that consumers find it difficult to navigate. Most policy holders are under stress when they need their insurance. Tikanga Māori helps to explain the importance Māori attach to upholding the mana of people, place and space. When this is trampled on it diminishes a sense of wellbeing for the person affected. It also reflects poorly on the mana of those who trample on others (Heta-Lensen, 2022). This is an important insight that may support NHC Toka Tū Ake Māori strategic priorities to deepen understandings and strengthen relationships by improving service delivery to reflect important tikanga.

The way policy holders were made to feel by insurance companies was evident from participants' accounts and experiences. This is a barrier for Māori access to insurance. It suggests that culturally relevant communication processes might help to broker some resolution to communication barriers that Māori encounter. Communication processes reflective of core tikanga and cultural values such as manaakitanga and whanaungatanga would provide guidance to the process of engagement that would foster relationship as key.

The findings reveal an interplay between the systemic and socio-ecological factors impacting on Māori. Systemic political, and environmental factors interact with the socio-ecological factors, further impacting socio-ecological outcomes. These, in turn, impacted

access to homeowner dwelling insurance for the participants in this study. It is important to understand how seemingly unrelated matters such as degradation of resources, have in fact featured strongly in participants' sense of loss of trust in mechanisms such as insurance, which forms part of wider structures of oppression and land alienation for Indigenous peoples (Whyte, 2020).

There are obvious macro level barriers that are affecting insurance globally, which were identified in the literature. Climate change and repeated extreme weather events are pushing insurance premiums up (Storey et al, 2024). Geo-politics have global economic effects, creating concern about environmental sustainability, which was detailed fully in the Global Risks Report (World Economic Forum, 2023) presented at the World Economic Forum that same year. The way climate change is affecting Aotearoa has been documented and reported on by various bodies (Lundquist et al., 2011; MacInnis-Ng et al., 2021; Ministry of The Environment, 2022). Findings related to environmental vulnerability and loss of access to resources reported by participants are consistent with the literature presented reporting on threats to environmental sustainability in Aotearoa.

The literature also shows that financial systems are reactive and in a state of flux, creating a need to rethink economic security and systems, including insurance systems (Storey, et al., 2024). For Indigenous people, there is an added layer of complexity related to systematic inequalities that have consistently and negatively impacted on social indicators of wellbeing including health, education, socio-economic status and housing. These complexities and multiple systemic inequalities are intersecting, as has been identified in this study, and is consistent with literature related to Māori inequalities (Ihirangi, 2022; Ministry of the Environment, 2020).

At governmental level, the socio-ecological impact of the imposition of British-based land laws has been immense, with far-reaching consequences and is on-going for Māori. They are diminished in their abilities to respond in culturally appropriate ways to climate change. This is highlighted in the literature reviewed (Awatere et al., 2021; Boulton et al., 2022; Branz, 2023; Forster, 2022; Hall, 2022; Ihirangi, 2022; Ministry for the Environment, 2019). Collectively, they add weight to the findings reporting on Māori homeowners' experiences and perspectives, and resulting mistrust in government departments generally.

The findings show that degradation of resources and land squeezing – an ongoing process of land loss that further marginalises access to tribal lands for Indigenous people, undermining sovereignty, relationships with land, and ability to sustain intergenerational wellbeing – is contributing to Māori dissatisfaction. In the rapid expansion and push to build more houses, particularly in areas that are becoming desirable, such as in parts of the Hawkes Bay wine belt area, Māori are expressing concern about the merit of land developments occurring in areas known to them to be considered unsuitable for building

on. The literature confirms a need to include Indigenous experiences and responses to climate change. In Aotearoa there is support for Māori views and knowledge to be included in decision making processes related to the environment. This is confirmed in the literature (Crow et al., 2020; King et al., 2007) yet it is seldom sought or is sought but not acted on. This is consistent with Māori perspectives and experiences and was identified in the literature (Kaiser et al., 2025). Interestingly, the view expressed by participants that Māori knowledge is often sought but seldom acknowledged provides an insight into a history of poor relationships between Māori and the Crown. There is a loss of Māori sovereignty and decision-making processes and a concurrent lack of accountabilities by councils and governing authorities for the care or kaitiakitanga of the resources of the land. This has impacted on the land and on Māori at community level, contributing to Māori feelings of mistrust, and disillusionment in insurance systems. Various examples have been provided in this study about the impact of industrial activity, which contributed to the devastating aftermath of floods and soil erosion in communities. Severe thunderstorms hit Te Matau-a-Māui again on 3 January 2026, causing further flooding. Unlike Cyclone Gabrielle in 2023, which caused the Wairoa River to flood, or the June floods of 2024, where the river bar had been closed, this flood was attributed to the inability of infrastructure to drain away the amount of rain that fell (120mm in 24 hours) quickly enough (Hyde, 2026). People in Te Wairoa region are still recovering from the effects of the floods that occurred there in June 2024.

Figure 2: Socio-ecological model showing the micro, meso, and macro level factors affecting access to dwelling insurance.



As outlined in the literature, and discussed in the expert interviews with Shaun Awatere, and Ripeka Read, the history of colonisation and land alienation in Aotearoa continues to impact negatively on Māori homeowners at a community (meso) level.

The findings also corroborate the literature showing how Māori homeowners are being affected at an individual (micro) level as well. Importantly, this includes homeownership and insurance models incongruent with land laws related to Māori land (Iorns & Godfery, 2024), creating barriers to accessing insurance for Māori homeowners on collectively owned Māori land. Concern was raised by a South Auckland participant that urban Māori are precluded from accessing hapū and iwi-based resources. However, as the literature shows and the findings demonstrate, Māori have a strong sense of whanaungatanga.

People who grew up in the area are motivated to create a community in their South Auckland area that can work together to support resilience in times of civil emergency.

The history of land loss contributes to a sense of frustration due to rezoning, articulated by whānau Māori, who are attempting to remain on their land. Many are aware of the

environmental challenges and are facing new ones by adopting new approaches and behaviours towards the land. Practices and knowledge gathered in this study, demonstrated Māori adaptive resilience to climate change providing insights into the wider benefits that can be derived from Māori environmental knowledge, as proposed by King et al. (2007). A sense that traditional practices are being disrupted, overlooked, and ignored was expressed by the study participants and is consistent with findings from the literature outlined previously (King et al., 2007; Ministry of the Environment, 2021; Owen, et al., 2024).

As reported in the literature (Awatere et al., 2021; Ihirangi, 2022; Radio New Zealand, 2024), Māori fall within the lower-income household bracket. As such, they face greater challenges in terms of housing affordability. Consistent with that, is that home ownership is below the national median amongst Māori. Therefore, Māori have less opportunity to require or request insurance against natural hazards. This shows how socio-ecological factors impact Māori at an individual level. Participants in this study all confirmed that the cost of housing insurance is prohibitive. The median age of the Māori population is 27.2 years (more than a decade younger than that of the total New Zealand population, which sits at 38.1 years) as of June 2025 (Stats NZ, 2025) and may account for some of these statistics (See Table 2). Economic precarity is resulting in deferred maintenance for some, which can increase long-term risk. The perception that using insurance will increase future costs without providing benefit is discouraging people from making claims. Clearly this defeats the purpose of having insurance and may be contributing to poor perceptions about the benefits. This in turn promotes reluctance to consider insurance as a staple necessity.

The findings reveal that Māori feel they are better served by their own communities as was indicated by many of the participants in this study. The emotional support that some found from their community added to a sense of hope for many that was a buffer against the trauma of the event they had been through. This is a significant finding and has implications both for the provision of services to Māori and for Māori adaptive sustainability practices in natural hazards management.

Participants show poor tolerance for risk-based insurance that is implicit in rezoning land. The literature confirms that the increased frequency of extreme weather events, tidal inundation, flooding, coastal erosion and storm surges are more likely to affect Māori communities. The impact of colonisation forced hapū from their traditional lands, to occupy sub-optimal areas, such as river or coastal floodplains during colonisation (Ministry of the Environment, 2022). The findings from this study suggest that many Māori are adaptive and are finding their own localised mitigation strategies.

When analysing the barriers and challenges to accessing insurance for Māori homeowners, it was found that there are more negatives than there are enabling influences. Surprisingly

and unfortunately, insurance was found to be one of the systemic factors negatively impacting Māori resilience. Conversely, Te Tiriti o Waitangi, including concepts of critical Kaupapa Māori, Māori leadership, mātauranga Māori and, most importantly, kaitiakitanga were identified as the factors that most enable Māori resilience.

Literature presented relating to Kaupapa Māori, reinforced that Kaupapa Māori theory asserts Māori autonomy over cultural, political, social, emotional and spiritual directions of their worlds (Heta-Lensen, 2022; Smith, 1997). The literature also supports the value Māori place on kaitiakitanga (Harmsworth & Awatere, 2013; Johnson et al., 2021). Key concepts contained within kaitiakitanga such as ensuring the balance of mana, and mauri through the enactment of tikanga are also reinforced by Iorns & Godfery (2024).

Owen et al.'s (2024) analysis of a Māori economy as necessarily encompassing the economic, the environmental, and the spiritual economy is succinctly accurate and consistent with the findings from this study. This provides an insight into the findings that at first are seemingly unrelated to the core issue of insurance provision. However, the findings revealed that alongside their insurance needs, Māori retain a focus on the wider and overall wellbeing of their communities, including the people and the land alongside their insurance needs. Despite a range of systemic barriers, which were also corroborated in the literature (Awatere et al., 2021; Boulton et al., 2022; Branz, 2023; Hall, 2022; Ihirangi, 2022; Johnson et al., 2021; Menzies et al., 2019; Owen et al., 2024), Māori demonstrate a desire to seek justice and accountability for the degradation of resources, and challenge extractive practices and poor accountability for inadequate infrastructure. The barriers they face are much wider than access to dwelling insurance and have borne down on Māori since colonisation. The accounts and perspectives gathered of lived reality experiences of climate change for Māori, the local knowledge they hold, and the adaptive resilience they show, also revealed their desire for systems that their knowledge can contribute to. An example was provided by wānanga participants of how that could be achieved by establishing a Māori body of kaitiaki. Creating Tohunga Mahi Whenua to be carried by those who understand the nature of the whenua and how to work with it, and Tohunga Mahi wairua to be carried by those who can lead and participate in the restoration of mana and mana motuhake offers a model that recognises te ao Māori approaches.

Manaaki whenua, manaaki tangata. Haere whakamua

Care for the land, care for the people. Advance.

The above whakataukī reminds us that the land and the people are interconnected. Adaptive resilience is supported when resources are abundant. Thus, by caring for the land, people are also nurtured and have the potential to advance and thrive. The following

section begins a conversation with emergent possibilities based on the premise that manaaki whenua and manaaki tangata are inseparable from each other.

Mōkihi: Conceptualising resilience models for Te ao hurihuri in an everchanging world

He wai pūkeri
He mōkihi teretere

Flooded water can be navigated with a swift raft



This Mōkihi model was inspired by Māori traditional approaches to crossing flooded areas. It represents resilience and adaptive use of resources and technologies. The choice of the mōkihi supports and propels the notion of recognition of valuable mātauranga appropriate to these current times of climate change.

The context of the mokihi as a framework for adaptive resilience:

- Representing mātauranga Māori as a living system that responds, adapts, and carries forward.
- Understanding climate change as an integrated visual, the mōkihi connects kaitiakitanga (the guardian layer) with critical Kaupapa Māori (the underlying driver of responsibility).
- Knowing the power of collective resilience. Working together within hapori to contribute to collective adaptive resilience and recovery, and mitigation planning.



The spiral motion of water can signify he wai pūkeri-turbulent water, flooding.

- Cycles of renewal, connection, evolution; the world in constant motion; challenges and uncertainties to be navigated
- The twisting water element beneath it can represent Te Ao Hurihuri — the ever-changing world — where Māori continue to adapt while holding fast to their cultural foundation.

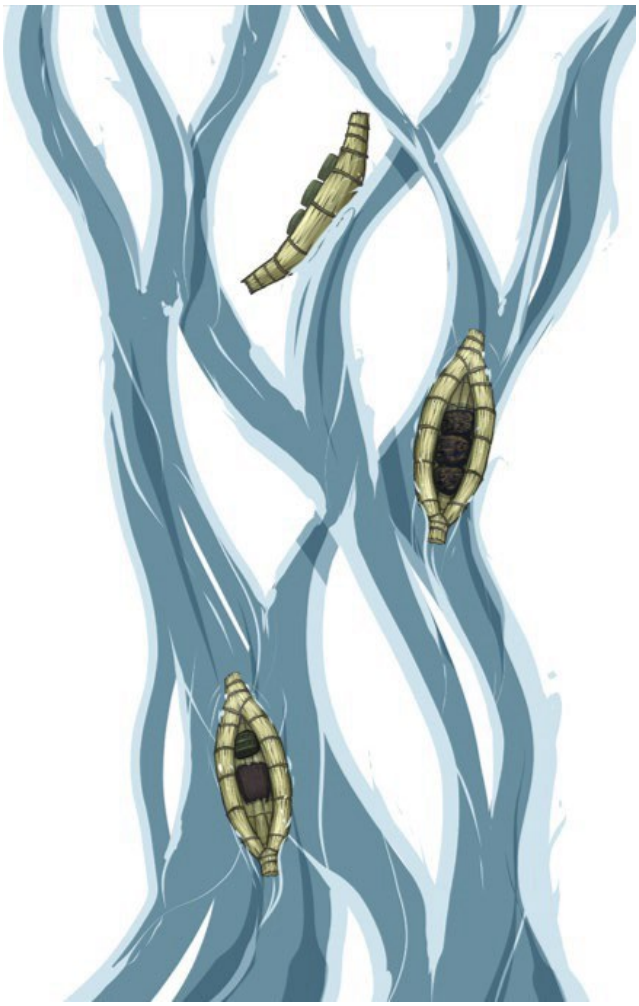


The interlacing waters illustrate interconnectedness — systemic, ecological, and cultural.

The turbulence in the strands reflects real-world challenges like policy barriers, land loss, and climate pressures.

Yet, the ongoing flow shows continuity and hope, reinforcing *Manaaki whenua, Manaaki tangata. Haere whakamua.*

Figure 3: The structure of the Mōkihi as a representation of Kaitiakitanga



Mōkihi are temporary and purposeful vessels used for travelling inland.

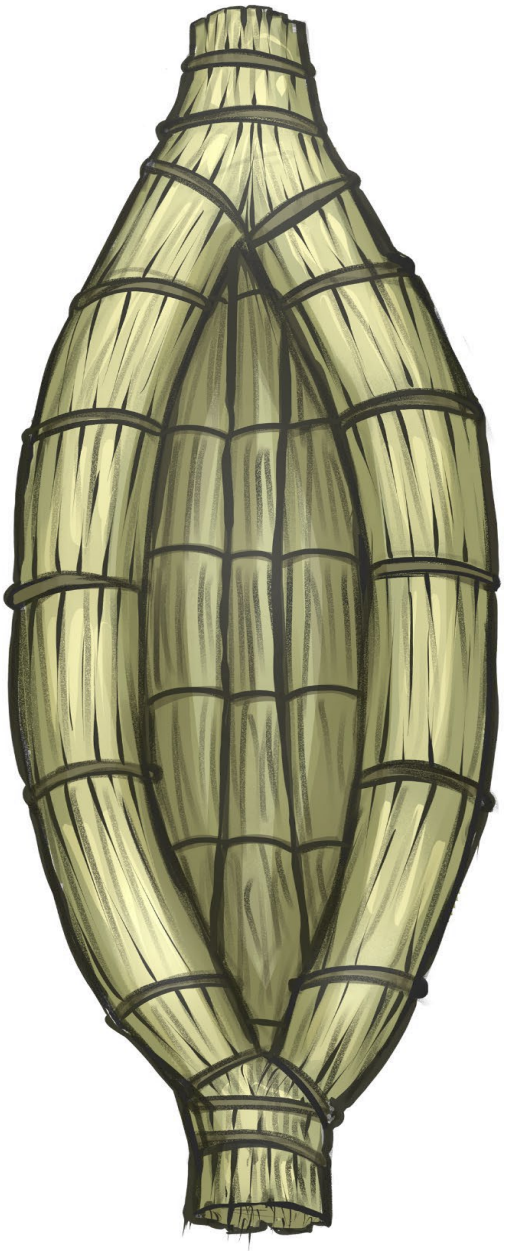
They represent responsiveness, adaptability, and preparedness. This relates to desired dispositional attributes – such as adaptive resilience, local knowledge, preparedness when faced with an emergency.

This can be a metaphor for insurance support and also applies to communities in terms of preparation.

In this image mōkihi are packed with necessary provisions. This relates to obvious survival needs to re-establish but also to the mātauranga that is necessary in order to thrive.

Braided rivers are home to unique bird and fish species in Aotearoa. In this model they represent mana whenua, localised knowledge and kaitiakitanga.

Braided rivers can also represent multiple interconnected support and recovery systems, including insurance systems and the supportive roles each can play in a natural hazard event. They can also represent the weaving together of western science and mātauranga Māori – distinct knowledge streams that meet and diverge but remain connected and, when braided together, can become stronger (Macfarlane & Macfarlane, 2019). Each river may represent oppositional currents such as barriers and enablers or power and resistance. They may also represent a succinct knowledge system, community voice, or theme.



Te Mōkihi Teretere

Representing knowledge, cooperation and collective strength.

The use of a buoyant craft symbolizes Māori homeowners navigating natural hazards and systemic barriers. The mōkihi holds whānau and mātauranga Māori, reflecting how traditional ingenuity still guides contemporary resilience.

The structure of the mōkihi determines its effectiveness as a system that can support sustainability and ensure survival. The selection of suitable fibres, the bundling of the materials, the creation of an even base and the correct tension of the lashings all ensure the survival of the passengers. This symbolises all the actors who provide support systems in a natural hazard event. It is not the responsibility of one, but the collective efforts of many to provide the best possible structures. But the knowledge of how to navigate, where to head, and what to take lies with the people.

He wai pūkeri he mōkihi teretere is a metaphor for resilience denoting that even the most difficult circumstances can be navigated if the tools and skills are present. The braided river represents the tools, knowledge, skills, challenges, and opportunities that people possess. It also represents the choices people make. The construction and successful use of mōkihi is dependent on the availability of natural resources and peoples' knowledge of how to care for, harvest, build and navigate and, importantly, their ability to work collectively under pressure. Likewise, the mōkihi model is most effective as a model to guide insurance provision if kaitiakitanga is centred in decision making processes.

Prioritising care for the environment alongside care for human survival provides a maximum opportunity to thrive and flourish. Thus, the Mōkihi Model – *Te Mōkihi Teretere* is

also a model that can speak back to a global polycrisis. Te Mōkihi Teretere centres kaitiakitanga as every one's responsibility, positioning insurance in a role of supporting recovery direction, and Māori knowledge as beneficial to that. It also provides a way forward for Māori resilience in Te Ao Hurihuri.

Recommendations

Four recommendations have emerged from analysis of the findings. These strategies were brought back to our final wānanga for this study to provide feedback and discussion and approval by our nominated kaumatua, Matua Hare Paniora, our research partners from Tuia te Waiora Peka MWWL, and available Wānanga and Kōrero Tahi participants.

1 Kaitiakitanga

The findings of this research demonstrate that for Māori, investment in the care and protection of whenua is paramount. Relationships with land are grounded in whakapapa, reciprocity, and intergenerational responsibility rather than extractive or transactional logics. Participants highlighted that trust has been significantly eroded through prolonged exposure to extractive land-use practices, such as forestry, that have contributed to environmental degradation while marginalising Māori customary practices and knowledge systems. These practices have compromised ecological integrity and put the burden of cost on to homeowners when infrastructure fails. They have also undermined the social and relational foundations necessary for sustainable land management. This is exemplified by the whakataukī *Manaaki whenua, manaaki tangata, haere whakamua (care for the land, care for the people. Advance!)*

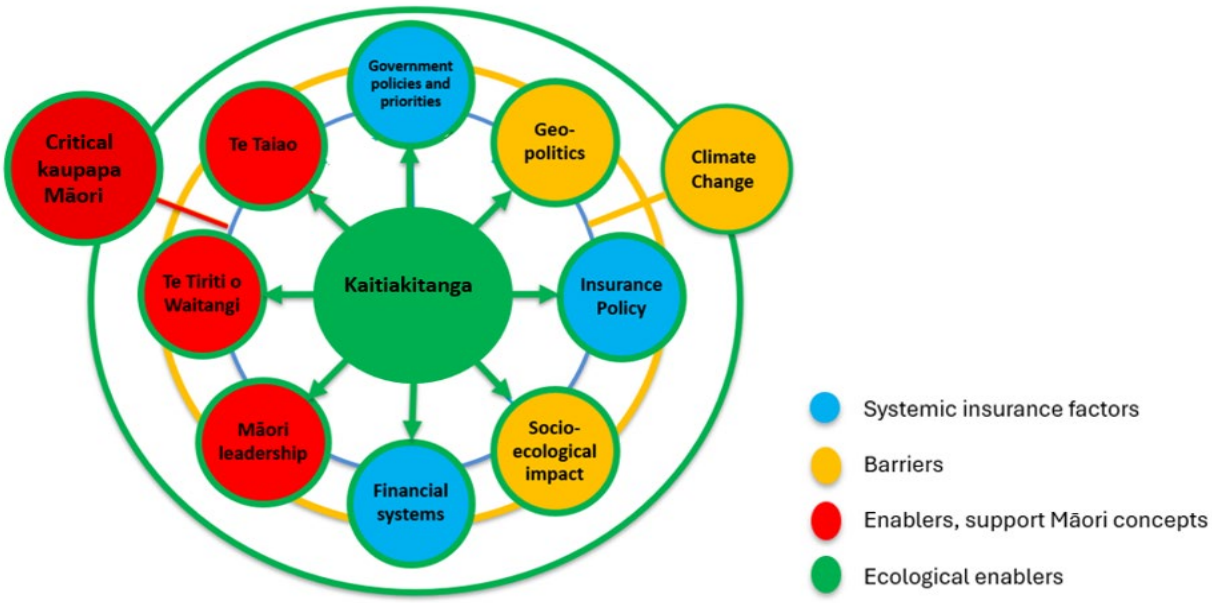
This research therefore recommends centering kaitiakitanga as the core guiding principle. Kaitiakitanga, underpinned by the values of manaaki whenua and manaaki tangata, provides a framework that prioritises ecological wellbeing as inseparable from community wellbeing. This approach enables the development of community-based, place-specific strategies that reflect the environmental realities, cultural priorities, and lived experiences of the communities they serve.

Importantly, a kaitiakitanga-led approach aligns with both the long-term objectives of the insurance sector, particularly in relation to risk reduction, resilience, sustainability and Māori practices. By drawing on localised mātauranga Māori, including detailed knowledge of land behaviour, weather patterns, seasonal change, and historical responses to environmental events, kaitiakitanga supports more accurate and contextually grounded assessments of risk. This locally embedded knowledge enhances the ability to anticipate, adapt to, and mitigate environmental hazards before they escalate into insurable, or worse, uninsurable losses.

Rather than responding after environmental damage has occurred, kaitiakitanga offers a proactive ecological mitigation strategy. By prioritising ecological health, such as soil stability, waterway protection, and biodiversity restoration. This approach reduces exposure to climate-related risks over time. In doing so, it shifts the focus from short-term risk transfer to long-term risk prevention, benefiting both communities and insurers.

Furthermore, positioning kaitiakitanga as a central strategy may act as a platform, and potentially a buffer, between Māori communities (and foreseeably the whole of Aotearoa) and external economic pressures. It supports decision-making that is grounded in local authority and collective responsibility, while also providing insurers and policymakers with a culturally legitimate and environmentally robust framework for engagement. This alignment presents an opportunity to rebuild mutual trust, enhance resilience, and reframe land investment as a shared commitment to ecological sustainability and intergenerational wellbeing.

Figure 4: Centering Kaitiakitanga as an ecological enabler



2 Rangatiratanga

Aligned to kaitiakitanga is a concept of Rangatiratanga. The findings of this study show that Māori tend to lean into their own services where these are available. Concern has been expressed by Māori that the voices of Māori leaders and holders of local knowledge are not being recognised.

This study recommends more explicit recognition of rangatiratanga as independent Māori leadership. Insurer support and resourcing for Māori-led responses through Tiriti-based partnership, could strengthen trust and enable more responsive and inclusive insurance outcomes. This would include working with Māori organisations to develop social

cohesion strategies for urban Māori and support for Māori leadership, including the creation and delivery of community education.

3 Whakawhanaungatanga

Māori research bodies and community groups carry a wealth of resources and support capabilities, including Kaupapa Māori research. Whakawhanaungatanga as an approach to building sustained research partnerships might be beneficial to both Toka Tū Ake NHC and Māori communities, particularly when the research requires sensitivity and flexible and adaptable cultural capabilities to deliver culturally grounded outcomes.

4 Ako

The findings of this study indicate a significant lack of accessible, clear, and culturally relevant knowledge within Māori communities, of how insurance policies and practices are conducted. This clearly limits the ability of whānau to make informed insurance decisions, particularly in relation to providing protection for homes on collectively owned Māori land. This study therefore recommends Ako, as a process of co-constructed learning involving three strategies as follows:

4a) The development and provision of easily accessible, plain-language insurance information, including specific guidance for collectively owned Māori land, or varied ownership housing, delivered in ways that support reciprocal learning between insurers and Māori communities.

4b) Professional learning grounded in whanaungatanga and manaakitanga to strengthen culturally supportive communication practices within insurance companies, to assist in the mitigation of interactions that alienate Māori clients or cause whakamā. Insurers should consider engaging Māori experts to support the development of culturally located approaches to communication and trauma-informed recovery, recognising the impacts of disaster, displacement, and historical experiences with institutions.

4c) An increased emphasis on education and support initiatives for rangatahi Māori, recognising young people as *taonga tuku iho* with significant potential to shape future community resilience. Participants highlighted the importance of providing accessible insurance and financial capability education that is relevant to rangatahi aspirations and life pathways. Support services that are strengths-based, future-focused, and responsive to rangatahi Māori aspirations, would contribute to intergenerational knowledge transfer, informed decision-making, and long-term community capability.

Conclusions

This study took a Kaupapa Māori qualitative approach to identifying the barriers and challenges to accessing insurance faced by Māori homeowners. Personal accounts and experiences gathered from 21 participants selected from a range of areas in the North Island of Aotearoa New Zealand, gave voice to Māori perspectives around the systemic, structural, environmental and economic challenges faced and how Māori communities are responding. Recent land rezoning that has been occurring due to coastal inundation and flooding, has impacted on whānau in multiple ways. Land that has been rezoned 'flood-prone' has restricted building ability, undermining papa kāinga development. This is causing an overall lack of trust in government agencies. Increased insurance costs are economically prohibitive for Māori homeowners. Insurance policy and Māori land occupation rights are misaligned. Houses that are built on Māori collectively owned land are difficult to insure causing a double looped dilemma, compounding the barriers Māori face.

Inflexible insurance policy is creating negative experiences and mistrust of the insurance industry. Māori are affected in multiple ways because current insurance systems do not align with Māori approaches and worldviews. Māori realities and insurance needs in rural and remote communities are incongruent with insurance policies that do not account for these differences. Māori realities in urban areas stem from a range of systemic inequalities and barriers to homeownership. Statistically, Māori are more likely to fall into the lower income bracket. Collective responsibilities also increase relative financial strain. They also form a younger demographic nationally than either the national median age or within their local regions. These factors increase their exposure, as was found in this study.

Māori participants in this study articulated a view that they bear the economic cost of degradation of resources which was corroborated by literature. Kaitiakitanga or obliged stewardship for the wellbeing of the land, is an inherent and inherited obligation through whakapapa for Māori communities living directly off the resources of the land. They bear the spiritual and economic burden for environmental mismanagement. Insurance-related concerns expressed were more towards or equal with, the degradation of local resources and land, than for their houses and contents. Participants in rural areas expressed the view that insurance overlooks vital resources, that is: water, land, and taonga. The knowledge reported in the literature emphasises that Māori are keenly aware of the need to adapt to their environment. In terms of structuring insurance support, awareness is also growing that there cannot be a one-size-fits-all approach dictated by external forces.

The call for the Government and its associated agencies, including NHC Toka Tū Ake, to empower communities to design and deliver their own climate solutions is growing.

Awareness of Indigenous Māori knowledge and frameworks that can develop comprehensive and inclusive adaptation strategies that re-localise economies and reduce centralised dependency, has been raised. Along with that is a call to address structural forces and long-term systemic barriers that promote exploitation and ecocide, and ongoing colonisation of Māori people, culture and land. This research highlighted that Aotearoa is afforded a wealth of opportunity to identify and enact innovative adaptation strategies that will strengthen collective resiliency. Māori approaches that pull from the past to identify solutions grounded in concepts of kaitiakitanga, manaakitanga, and whanaungatanga, offer a pathway forward. Te ao Māori provides valuable perspectives for navigating a polycrisis by understanding and emphasising interconnectedness, reciprocity, and respect for the natural world and prioritising holistic well-being and promoting collaborative approaches to problem-solving, and alternative solutions to dominant, often fragmented, approaches to addressing complex challenges.

Te Tiriti o Waitangi affirms Māori rights to participate in decision-making processes. Māori communities—many of whom are situated in historically marginalised, high-risk areas—face disproportionate impacts from rising insurance premiums and managed retreat proposals. However, adaptation responses risk sidelining Tiriti-based partnerships and redress for the intergenerational effects of land dispossession and colonisation.

No reira, manaaki tangata, manaaki whenua, haere whakamua.

References

Archie, K. M., Chapman, R., & Flood, S. (2018). Climate change response in New Zealand communities: Local scale adaptation and mitigation planning. *Environmental Development*, *28*, 19–31. https://doi.org/10.1016/j.envdev.2018.09.003

Awatere, S., King, D., Reid, J., Williams, L., Masters-Awatere, B., Jones, R., Eastwood, R., Harris, P., Pirker, J., & Matamua-Tapsell, N. (2021). He huringa āhuarangi, he huringa ao: A changing climate, a changing world. *Te Arotahi Series Paper 7,* [October 2021]. Ngā Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence. http:www.maramatanga.ac.nz/te-arotahi-07

Bahadur, A. V., Ibrahim, M., & Tanner, T. (2013). Characterising resilience: unpacking the concept for tackling climate change and development. *Climate and Development*, *5*(1), 55–65. https://doi.org/10.1080/17565529.2012.762334

Bailey-Winiata, A. P., Gallop, S. L., White, I., Wotherspoon, L., Fa'aui, T., Dickson, M., & Ellis, J. (2024). Looking backwards to move forwards: Insights for climate change adaptation from historical Māori relocation due to natural hazards in Aotearoa New Zealand. *Regional Environmental Change*, *24*(2), 80. https://doi.org/10.1007/s10113-024-02240-5

Boulton, A., Allport, T., Kaiwai, H., Harker, R., & Potaka Osborne, G. (2022). Māori perceptions of 'home': Māori housing needs, wellbeing and policy. *Kōtuitui: New Zealand Journal of Social Sciences Online*, *17*(1), 44–55. https://doi.org/10.1080/1177083X.2021.1920984

Boulton, A., Levy, M. P., & Cvitanovic, L. (2020). Beyond Puao-Te-Ata-Tu: Realising the promise of a new day. *Te Arotahi Series Paper 6,* [December 2020]. Ngā Pae o te Māramatanga. New Zealand's Māori Centre of Research Excellence. https://maramatanga.ac.nz/index.php/te-arotahi-06

Branz. (2023). *Understanding the impacts of climate change on marae*. https://www.branz.co.nz/about/ourstories/2022-2023/understanding-the-impacts-of-climate-change-on-marae/

Chief Economist Unit, & Pells, S. (2023). *Resilience – definitions, concepts and measurement: A literature review* [CEU Working Paper 23/02]. Ministry of Business, Innovation and Employment https://www.mbie.govt.nz/dmsdocument/26810-resilience-definitions-concepts-and-measurement-a-literature-review-pdf

Collier, S. J., Elliott, R., & Lehtonen, T. K. (2021). Climate change and insurance. *Economy and Society*, *50*(2), 158–172. https://doi.org/10.1080/03085147.2021.1903771

Consumer NZ. (2025). *Will you be able to get home insurance by 2035?* https://campaigns.consumer.org.nz/insurance

Cram, F. 1993. *Ethics in Māori research*. Working Paper. Research Unit for Māori Education at the University of Auckland.

Crow, S. K., Tipa, G. T., Nelson, K. D., & Whitehead, A. L. (2020). Incorporating Māori values into land management decision tools. *New Zealand Journal of Marine and Freshwater Research*, *54*(3), 431–448. https://doi.org/10.1080/00288330.2020.1772322

Extreme Weather Research Platform. (2024). *Insurance and disaster recovery*. Resilience to Nature's Challenges National Science Challenge. https://resiliencechallenge.nz/wp-content/uploads/Insurance-Policy-Brief.pdf

Earthquake Commission Act 1993 [NZ]. (1993, September 14). *New Zealand Gazette*, No. 138.

Forster, M. (2022). Amplifying the influence of Māori knowledge in environmental management. *Environment and Planning F*, *2*(1-2), 229-246. https://doi.org/10.1177/26349825221133095

Friend, R., & MacClune, K. (2013). *Climate Resilience Framework: Putting Resilience Into Practice*. Institute for Social and Environmental Transition.

Freistein, K., & Müller, T. (2025). Capitalising on Virtue: Global Climate Politics and the Life Cycle of Status Symbols. *Cooperation and Conflict* 60, no. 1 (2025): 120–144. https://doi.org/10.1177/00108367241306294

Hall, D. (2022). *Adaptation finance: Risks and opportunities for Aotearoa New Zealand.* Concept paper prepared for the Ministry for the Environment. Auckland: Mōhio Research and AUT. https://doi.org/10.24135/10292/15670

Harmsworth, G. R., & Awatere, S. (2013). Indigenous Māori knowledge and perspectives of ecosystems. *Ecosystem services in New Zealand—conditions and trends. Manaaki Whenua Press, Lincoln, New Zealand*, 274-286.

He Pou a Rangi Climate Change Commission. (2024). *Progress report: National Adaptation Plan: Assessing progress on the implementation and effectiveness of the Government's first national adaptation plan.* https://www.climatecommission.govt.nz/public/Monitoring-and-reporting/NAPPA-2024/CCC-NAPPA_bookmarked2.pdf

Henry, E. (2012). Te wairua auaha: emancipatory Māori entrepreneurship in screen production. Unpublished PhD thesis. Te Ara Poutama Auckland University of Technology. https://hdl.handle.net/10292/4085

Henry, E. & Crothers, C. (2019). Exploring papakāinga: A kaupapa Māori quantitative methodology. *Report for Kāinga Tahi, Kāinga Rua.* Project 8. Building Better Homes, Towns and Cities. National Science Challenges. Retrieved from www.buildingbetter.nz.

Henry, E., & Foley, D. (2018). Indigenous research: ontologies, axiologies, epistemologies and methodologies. In L. A. Booysen, R. Bendl, & J. K. Pringle (Eds.), *Handbook of Research Methods in diversity management, equality and inclusion at work.* Chapter 10. Edward Elgar Publishing. https://doi.org/10.4337/9781783476084.00019

Henry, E., & Pene, H. (2001). Kaupapa Māori: Locating Indigenous Ontology, Epistemology and Methodology in the Academy. *Organization*, *8*(2), 234-242. https://doi.org/10.1177/1350508401082009 (Original work published 2001)

Henry, E., & Wolfgramm, R. (2015). Relational leadership – An indigenous Māori perspective. *Leadership*, *14*(2), 203-219. https://doi.org/10.1177/1742715015616282

Heta-Lensen, Y. (2022). *Aka Kaupapa: The Trajectories of Kaupapa Māori as Lived Experience*. Thesis submitted in partial fulfilment of the requirements for Doctor of Education, Auckland University of Technology.

Hikuroa, D. (2013). *Can Indigenous Knowledge reduce risk, facilitate recovery and increase resilience*? International Geographical Union Annual Conference 2013.

Hyde, C. (2026, January 4). Wairoa residents kayak through streets as torrential rain floods town. *NZ Herald*. https://www.nzherald.co.nz/hawkes-bay-today/news/wairoa-flooding-drains-overwhelmed-as-120mm-falls-in-24-hours/IRS2QCIZ5FFX3HEU56A666QMTM/

Ihirangi. (2022). *Exploring an indigenous worldview framework for the national climate change adaptation plan*. Ministry for the Environment. Retrieved from: https://environment.govt.nz/publications/exploring-an-indigenous-worldview-framework-for-the-national-climate-change-adaptation-plan/

Independent Reference Group on Climate Adaptation. (2025). *A proposed approach for New Zealand's adaptation framework*. https://environment.govt.nz/assets/publications/climate-change/A-proposed-approach-for-New-Zealands-adaptation-framework-final.pdf

Iorns, C. & Godfery, M. (2024). *Ka mate kāinga tahi, ka ora kāinga rua: Legal barriers and obligations in improving Māori access to dwelling insurance for natural hazards.* Te Herenga Waka-Victoria University of Wellington. Report. https://doi.org/10.25455/wgtn.28756721

Iorns, C., & Godfery, M. (2025). *Ka Mate Kāinga Tahi, Ka Ora Kāinga Rua: Legal Barriers and Obligations in Improving Māori Access to Dwelling Insurance for Natural Hazards.* Natural Hazards Commission Toka Tū Ake. Research Report for Natural Hazards Commission-Toka Tū Ake No. 3800. https://www.naturalhazards.govt.nz/resilience-and-research/research/ search-all-research-reports/ka-mate-kainga-tahi-ka-ora-kainga-rua-legal-barriers-and-obligations-in-improving-maori-access-to-dwelling-insurance-for-natural-hazards/.

Janzwood, S., & Homer-Dixon, T. (2022). *What Is a Global Polycrisis*? Discussion Paper 2022–4. Cascade Institute https://cascadeinstitute.org/technical-paper/what-is-a-global-polycrisis/

Johnson, D., Parsons, M., & Fisher, K. (2021). Engaging Indigenous perspectives on health, wellbeing and climate change. A new research agenda for holistic climate action in Aotearoa and beyond. *Local Environment*, *26*(4), 477-503.

Johnson, D., Fisher, K., & Parsons, M. (2024). Resistance, resurgence, and wellbeing: Climate change loss and damages from the perspective of Māori women. *Environment and Planning E: Nature and Space*, *7*(3), 1318-1364.

Jones, R., Bennett, H., Keating, G., & Blaiklock, A. (2014). Climate change and the right to health for Māori in Aotearoa/New Zealand. *Health and Human Rights 2014,* 16/116, 54.

Kawharu, M. (2000). Kaitiakitanga: A Māori anthropological perspective of the Māori socio-environmental ethic of resource management. *The Journal of the Polynesian Society*, *109*(4), 349-370.

Kaiser, L. H., Kenney, C. M., Phibbs, S. R., Saunders, W. S., & Becker, J. S. (2025). *Te Kahu Huruhuru o Kohikohi*. MAI, 102.

King, D. N., Goff, J., & Skipper, A. (2007). Māori environmental knowledge and natural hazards in Aotearoa-New Zealand. *Journal of the Royal Society of New Zealand*, *37*(2), 59-73.

Lawrence, J. (2016). Implications of climate change for New Zealand's natural hazards risk management. *Policy Quarterly*, *12*(3).

Lawrence, J., Wreford, A., Blackett, P., Hall, D., Woodward, A., Awatere, S., Livingston, M. E., Macinnis-Ng, C., Walker, S., Fountain, J., Costello, M. J., Ausseil, A.-G. E., Watt, M. S., Dean, S. M., Cradock-Henry, N. A., Zammit, C., & Milfont, T. L. (2024). Climate change adaptation through an integrative lens in Aotearoa New Zealand. *Journal of the Royal Society of New Zealand*, *54*(4), 491–522. https://doi.org/10.1080/03036758.2023.2236033

Lockhart, C., Houkamau, C. A., Sibley, C. G., & Osborne, D. (2019). To Be at One with the Land: Māori Spirituality Predicts Greater Environmental Regard. *Religions*, *10*(7), 427. https://doi.org/10.3390/rel10070427

Lundquist, C. J., Ramsay, D., Bell, R., Swales, A., & Kerr, S. (2011). Predicted impacts of climate change on New Zealand's biodiversity. *Pacific Conservation Biology*, *17*(3), 179–191. https://doi.org/10.1071/PC110179

Macfarlane, A., & Macfarlane, S. (2019). Listen to culture: Māori scholars' plea to researchers. *Journal of the Royal Society of New Zealand*, *49*, 1–10. https://doi.org/10.1080/03036758.2019.1661855

Macinnis-Ng, C., Mcintosh, A. R., Monks, J. M., Waipara, N., White, R. S., Boudjelas, S., Clark, C. D., Clearwater, M. J., Curran, T. J., Dickinson, K. J., Nelson, N., Perry, G. L., Richardson, S. J., Stanley, M. C., & Peltzer, D. A. (2021). Climate-change impacts exacerbate conservation threats in island systems: New Zealand as a case study. *Frontiers in Ecology and the Environment*, *19*(4), 216–224. https://doi.org/10.1002/fee.2285

Maketu Iwi Collective. (2023). *He toka tū moana mō Maketu: Maketu climate change adaptation plan*. https://maketuclimateplan.iwi.nz/wp-content/uploads/2023/11/Maketu-Climate-Change-Adaptation-Plan-He-Toka-Tu-Moana-Mo-Maketu.pdf

McLeod, R., & Lam, V. (2021). *An overview: Māori financial services institutions and arrangements*. Reserve Bank of New Zealand. https://www.rbnz.govt.nz/-/media/project/sites/rbnz/files/publications/analytical-notes/2021/AN2021-04.pdf

Menzies, D., Whitehead, J., Walker, G., Reid, J., & Macfarlane, A. H. (2019). *Economics and financing of housing for Māori: Literature review*. Ngāi Tahu Research Centre.

Menzies, D., Henry, L., Austin, P. & Fergusson, E. (2021). Hei whakatū ngā kāinga mō te iwi Māori: Producing, retaining and maintaining affordable housing for Māori: National Science Challenge 11: Building Better Homes, Towns and Cities. http://www.buildingbetter.nz/resources/publications.html

Mihaere, S., Holman-Wharehoka, M., Mataroa, J., Kiddle, G. L., Pedersen Zari, M., Blaschke, P., & Bloomfield, S. (2024). Centring localised indigenous concepts of wellbeing in urban nature-based solutions for climate change adaptation: case-studies from Aotearoa New Zealand and the Cook Islands. *Frontiers in Environmental Science*, *12*, 1278235.

Ministry of the Environment (2019). *Arotakenga Huringa Āhuarangi: A Framework for National Climate Change Risk Assessment for Aotearoa New Zealand*. Publication number ME1434. Ministry for the Environment. Retrieved from https://environment.govt.nz/publications/arotakenga-huringa-ahuarangi-a-framework-for-the-national-climate-change-risk-assessment-for-aotearoa-new-zealand/

Ministry for the Environment. (2020). *Arotakenga tūraru mō te huringa āhuarangi o Āotearoa: National climate change risk assessment for New Zealand.* Ministry for the environment. https://environment.govt.nz/publications/national-climate-change-risk-assessment-for-new-zealand-main-report/

Ministry for the Environment. (2022). *Urutau, ka taurikura: Kia tū pakari a Aotearoa i ngā huringa āhuarangi – Adapt and thrive: Building a climate-resilient New Zealand.* INFO 1070. Ministry for the Environment.

Moewaka Barnes, H., Eich, E., & Yessilth, S. (2018). Colonisation, whenua and capitalism: experiences from Aotearoa New Zealand. *Continuum*, *32*(6), 685-697.

Moewaka Barnes, H., & McCreanor, T. (2019). Colonisation, hauora and whenua in Aotearoa. *Journal of the Royal Society of New Zealand*, *49*(sup1), 19-33.

National Hazards Commission Toka Tu Ake (2024). *Guide to natural hazards cover.* Retrieved from *https://www.naturalhazards.govt.nz/our-publications/guide-to-natural-hazards-cover/*

Natural Hazards Insurance Act 2023. Retrieved from New Zealand Legislation website

Neuendorf, K. A. (2018). Content analysis and thematic analysis. In *Advanced Research Methods for Applied Psychology*. Routledge.

New Zealand Commerce Commission Te Komihana Tauhokohoko (n.d). Retrieved from https://www.comcom.govt.nz/business/credit-providers/your-disclosure-obligations/

Office of the Minister of Climate Change. (2024). *Progressing an adaptation framework*. Retrieved from https://environment.govt.nz/assets/publications/CAB-400-and-CAB-minute-redacted-for-publishing.pdf

Oquendo-Torres, F. A., & Segovia-Vargas, M. J. (2024). Sustainability risk in insurance companies: A machine learning analysis. *Global Policy*, *15*(S7), 47–64. https://doi.org/10.1111/1758-5899.13440

Owen, S., Letica, S., & Awatere, S. (2024). *Risk-based insurance pricing and te ao Māori.* Deep South National Science Challenge https://deepsouthchallenge.co.nz/resource/risk-based-insurance-pricing-and-te-ao-maori/

Pastor-Paz, J., Noy, I., Sood, A., Fleming-Munoz, D., & Owen, S. (2020). Projecting the effect of climate change on residential property damages caused by extreme weather events. *Journal of Environmental Management, 276, 222012.* https://doi.org/10.1016/j.jenvman.2020.111012

Pastor Paz, J. (2021). *Risk from extreme precipitation and climate change on New Zealand's residential property* [Open Access Te Herenga Waka-Victoria University of Wellington]. https://doi.org/10.26686/wgtn.16552782

Paulik, R., Stephens, S., Wadhwa, S., Bell, R., Popovich, B., & Robinson, B. (2019). *Coastal flooding exposure under future sea-level rise for New Zealand* (2019119WN). https://deepsouthchallenge.co.nz/wp-content/uploads/2021/01/Exposure-to-Coastal-Flooding-Final-Report.pdf

Radio New Zealand. (2024, November 3). Māori families and households data released as an official Census statistic for the first time. *RNZ News*. https://www.rnz.co.nz/news/te-manu-korihi/532715/maori-families-and-households-data-released-as-an-official-census-statistic-for-the-first-time

Rameka, L. (2016). *Kia whakatōmuri te haere whakamua*: 'I walk backwards into the future with my eyes fixed on my past.' *Contemporary Issues in Early Childhood*, *17*(4), 387–398. https://doi.org/10.1177/1463949116677923

Rangitauira, R. (2015, March 3). Insurance costs ongoing issue for marae. *RNZ News*. https://www.rnz.co.nz/news/te-manu-korihi/267592/insurance-costs-ongoing-issue-for-marae

Reid, J., Rout, M., Tau, T. M., & Smith, C. (2017). *The colonising environment: An aetiology of the trauma of settler colonisation and land alienation on Ngāi Tahu Whānau*. https://natlib.govt.nz/records/38215360

Retirement Commission. (2021). *New Zealand Financial Capability: Focus on Māori* https://assets.retirement.govt.nz/public/Uploads/Research-2020/TAAO-_NZ-financial-capability_maori.pdf

Rout, M., Awatere, S., Mika, J., Reid, J., & Roskruge, M. (2021, August 31). A Māori Approach to Environmental Economics: Te ao tūroa, te ao hurihuri, te ao mārama—The old world, a changing world, a world of light. *Oxford Research Encyclopedia of Environmental Science.* Retrieved 10 Jan. 2026, from https://oxfordre.com/environmentalscience/view/10.1093/acrefore/9780199389941 4.001.0001/acrefore-9780199389414-e-715

Salmond, A., Brierley, G., & Hikuroa, D. (2019). Let the rivers speak: Thinking about waterways in Aotearoa New Zealand. *Policy Quarterly*, *15*(3).

Smith, G. H. (1997). *The development of kaupapa Māori: Theory and praxis* [A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy in Education]. University of Auckland.

Smith, L. T. (1999). *Decolonizing methodologies: Research and Indigenous peoples*. University of Otago Press.

Smith, L. T. (2022). *Decolonizing methodologies: Research and indigenous peoples* (Third edition). Bloomsbury Academic.

Spiller, C., Maunganui Wolfgramm, R., Henry, E., & Pouwhare, R. (2020). Paradigm warriors: Advancing a radical ecosystems view of collective leadership from an Indigenous Māori perspective. *Human Relations*, *73*(4), 516-543. https://doi.org/10.1177/0018726719893753

Stats NZ (2021). *Te Pā Harakeke: Māori housing and wellbeing 2021*. Retrieved from www.stats.govt.nz

Stepanova, K. (2019). Insuring marae, the sacred meeting grounds of Aotearoa's iwi *Insurance Business Mag NZ.* (July 31) https://www.insurancebusinessmag.com/nz/news/breaking-news/insuring-marae-the-sacred-meeting-grounds-of-aotearoas-iwi-174041.aspx

Storey, B. (2017). *Conversion to Leasehold as Methodology to Price Sea Level Rise Risk*. Thesis submitted 6 March 2017 to the University of Canterbury in completion of the Masters of Disasters.

Storey, B., Noy, I., Owen, S., Townsend, W., Kerr, S., Salmon, R., Middleton, D., Filippova, O., & James, V. (2017). *Insurance, housing and climate adaptation: Current knowledge and future research* (Motu Note #27). Motu Economic and Public Policy Research. https://www.motu.nz/assets/Documents/our-work/environment-and-agriculture/climate-change-impacts/Insurance-Housing-and-Climate-Adaptation.pdf

Storey, B., Owen, S., Zammit, C., & Noy, I. (2024). Insurance retreat in residential properties from future sea level rise in Aotearoa New Zealand. *Climatic Change*, *177*(3), 44. https://doi.org/10.1007/s10584-024-03699-1

Tamehana, H., Tapuke, S., Fraser, T., Tupe, M., Roa, K., & Tupe, T. (2024). *Ki te whare tū tonu, ki te whare manawaroa: Towards a climate resilient meeting house*. NIWA Deep South Science Challenge. Retrieved from https://deepsouthchallenge.co.nz/resource/ki-te-whare-tu-tonu-ki-te-whare-manawaroa-towards-a-climate-resilient-meeting-house/

Te Kaahui o Rauru, & Ministry for the Environment. (2021). *Ka mate kaainga tahi, ka ora kaainga rua: Ngaa Rauru Kiitahi Climate Change Strategy*. https://environment.govt.nz/assets/publications/ngaa-rauru-kiitahi-climate-change-strategy.pdf

Te Puni Kōkiri. (2023). *Understanding climate hazards for hapori Māori: Insights for policy makers report*. http://www.tpk.govt.nz/en/o-matou-mohiotanga/climate/understanding-climate-hazards-for-hapori-maori-ins/

Te Rūnanga o Ngāi Tahu. (2018). *Te tāhū o te whāriki: Anchoring the foundation*. https://ngaitahu.iwi.nz/assets/Documents/Ngai-Tahu-Climate-Change-Strategy.pdf

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. In C. Willig & W. Stainton Rogers (Eds.), *The SAGE handbook of qualitative research in psychology* (2nd ed., pp. 17–37). SAGE Publications. https://doi.org/10.4135/9781526405555.n2

The Parliamentary Counsel Office (n.d) Ture Whenua Māori Act. *Māori Land Act, 1993. No 4*. Retrieved from New Zealand Legislation website https://www.legislation.govt.nz/act/public/1993/0004/latest/whole.html

Te Urunga o Kea, Te Arawa Climate Change Working Group, Te Arawa Lakes Trust, & Scion. (2021). *Te ara ki kōpū: Te Arawa climate change strategy*. https://tearawa.io/wp-content/uploads/2021/09/RS03642-Ta-Arawa-Climate-Change-Strategy.pdf

Te Whata. (2023). *Home ownership | All Māori* [Dataset]. Te Whata. https://tewhata.io/all-maori/social/housing/home-ownership/

The Parliamentary Counsel Office (n.d) Ture Whenua Māori Act. *Māori Land Act, 1993. No 4*. Retrieved from New Zealand Legislation website https://www.legislation.govt.nz/act/public/1993/0004/latest/whole.html

Timoti, P., Lyver, P. O. B., Matamua, R., Jones, C. J., & Tahi, B. L. (2017). A representation of a tuawhenua worldview guides environmental conservation. *Ecology and Society*, *22*(4):20. https://doi.org/10.5751/ES-09768-220420

Turia, T. (2013, October 17). Insurance comes at a huge cost to Māori, iwi and hapu. *Whanganui Chronicle*. https://www.nzherald.co.nz/whanganui-chronicle/news/insurance-comes-at-a-huge-cost-to-maori-iwi-and-hapu/N65I2GZ425MYRALONH4M3FUBTQ/

Waitangi Tribunal. (2011). *Ko Aotearoa Tēnei: A report into claims concerning New Zealand law and policy affecting Māori culture and identity (Wai 262)*. Legislation Direct. https://waitangitribunal.govt.nz/publications-and-resources/reports/ko-aotearoa-tenei-wai-262/

Walker, E. T., Wehi, P. M., Nelson, N. J., Beggs, J. R., & Whaanga, H. (2019). Kaitiakitanga, place and the urban restoration agenda. *New Zealand Journal of Ecology*, *43*(3), 1-8. https://doi.org/10.20417/nzjecol.43.34

Warbrick, I., Makiha, R., Heke, D., Hikuroa, D., Awatere, S., & Smith, V. (2023). Te Maramataka—an indigenous system of attuning with the environment, and its role in modern health and well-being. *International Journal of Environmental Research and Public Health*, *20*(3), 2739. https://doi.org/10.3390/ijerph20032739

White, S. (2018). *Māori Freehold Land & Climate Change Adaptation* [Dissertation submitted for Bachelor of Laws (Honours), Otago University].

Whyte, K. P. (2017). *Indigenous climate change studies: Indigenizing futures, decolonizing the Anthropocene*. English Language Notes, 55(1–2), 153–162. https://doi.org/10.1215/00138282-55.1-2.153

Whyte, K. P. (2020). *Too late for indigenous climate justice? Ecological and relational tipping points*. WIREs Climate Change, 11(1), e603. https://doi.org/10.1002/wcc.603

World Economic Forum. (2023). *The Global Risks Report 2023 Insight Report*. https://www.weforum.org/publications/global-risks-report-2023/

Yang, Q. (2023). Research on the impact of climate change on insurance companies. *Advances in Economics, Management and Political Sciences*, *9*, 264-269. https://doi.org/10.54254/2754-1169/9/20230393

Zhou, F., Endendijk, T., & Botzen, W. W. (2023). A review of the financial sector impacts of risks associated with climate change. *Annual Review of Resource Economics*, *15*(1), 233-256. https://doi.org/10.1146/annurev-resource-101822-105702

Glossary of Terms

Note: Glossary definitions are informed by the sources cited or from Te Aka Māori Dictionary Online

Kupu	Translation
Ako	A two-way process of learning. To teach, to learn, to advise
Ao	World, body of land
Aotearoa	Land of the long white cloud'. Another name for the North Island. Now known as a name for New Zealand. In contemporary times Aotearoa New Zealand is the bilingually used name. It acknowledges the Tiriti based relationship between Māori as Tangata whenua and people from other lands as Tangata Tiriti. It is not the traditional name.
Āroa	Comprehension, perception
Awa	River
Awhi	Support
Haere	Go
Hapori	Community
Hapū	Subtribe (can also mean pregnant)
Harakeke	Phormium tenax – flax
Hauora	Wellbeing, hauora wairua refers to spiritual wellbeing
Hōhā	Annoying, annoyed, fed up, disinterested
Huihuinga	Gathering, assembly
Iwi	Tribe
Kaha	Strength
Kai	Food
Kaitiaki	Guardian, caretaker
Kaitiakitanga	Guardianship
Kaumātua	Respected elder
Kaupapa	Platform. Can also refer to purpose, issue, plan
Kaupapa Māori	Māori ideology. Grounded a framework informed by mātauranga Māori
Kaupapa Māori theory	Informed by the seminal works of Graham Hingangaroa Smith and Linda Tuhiwai Smith, Kaupapa Māori Theory takes a critical theory approach in the advancement of Māori research, education and knowledge
Kāwana	Governor

Kāwanatanga	Governance, authority
Koha	Donation
Kohikohi	Collect, gather together
Kōrari	In this study we refer to Kōrari as the flower stem off the harakeke. Kōrari is also a variety of harakeke
Kōrero tahi	Literally kōrero tahi means to come together to talk. Kōrero Tahi was employed as semi-structured interviewing in this study
Kotahitanga	Unity
Mahi	Work
Mahi tahi	Literally to work as one. Denoting collective enterprise
Mahia	Build, develop
Mahinga kai	Traditional cultivation practices and food-gathering sites
Mamae	Pain, hurt, injury. Mamae-ā-wairua refers to spiritual injury or pain.
Mana	Authority, uniqueness
Mana tangata	Referring to the uniqueness and authority of people
Mana whenua	Referring to tribal authority over a region.
Manaaki	To care for, show empathy towards. Manaaki Tangata refers to the process of caring for people
Manaaki tangata	Care and empathy towards people
Manaaki whenua	Care and empathy towards land, the environment
Manaakitanga	Hospitality, kindness, generosity, support – the process of showing respect, generosity and care for others
Māori	(Noun) Referring to indigeneity in Aotearoa New Zealand
Marae	Sacred forecourt at the front of the wharenui. Can be used to encompass the buildings around the wharenui
Māramatanga	Understanding
Mātau	To attain or possess deep knowledge
Mātauranga	Knowledge, wisdom. Mātauranga Māori refers to Māori world views and perspectives, Māori creativity and cultural practices, Māori ancestral learning and knowledge, Māori scientific and mathematical knowledge, Māori anatomic, strategic, and medical knowledge
Matua	Literally, father. A term also used to address senior male teachers and educators in education
Mauri	Life force, life essence

Mōhio	To know
Mōhiohio	To recognise, come to know, develop understanding
Mōhiotanga	Knowledge
Mōkihi	Transportable lightweight crafts constructed to transport people or goods inland, often used during flooding, capable of travelling swift waters if well-constructed
Noho Tahi	Literally to sit together. It is used to refer to coming together, particularly for a collective cause
Pā	Pā has multiple meanings. It can refer to grouping together as in a pā harakeke. It also refers to communal living and a type a construction
Papa	Surface, plane
Papa kāinga	Home base, family owned/communal land
Papatūānuku	Earth Mother
Pūkeri	Turbulent, violently flowing water
Puna	Spring or pool of water
Pūrākau	Contextualised traditional stories, referring largely to Māori esoteric knowledge
Rangahau	Research
Rangi	Sky
Ranginui	Sky Father
Raupō	Bulrush, a lightweight swamp plant
Rongoā	Medicinal practices and/or plants
Rongorongo	Referring to the senses, to hear, feel, smell etc. In the context of this study rongorongo refers to a process of taking in information through kōrero tahi.
Tangata whenua	Indigenous people of the land
Taonga	Gift, treasure, something priceless
Te Ao	The light; related to Māori cosmology of the world emerging from a time of darkness to a time of light
Te Ao Hurihuri	The changing world
Te ao Māori	Māori world; Māori worldview; Māori cosmology
Te Kore	Referred to in Māori cosmology as a period in the creation of the world when nothing existed, the period of a great void. Te Kore can also be viewed as a zone of potential
Te Rōpū Wāhine Māori Toko i te Ora	The Māori Women's Welfare League (MWWL)

Te taiao	The natural world, environment, nature
Teretere	Swift, speedy
Tiaki	Care, tiakitanga is the act of caring for
Toka Tū Ake	Natural Hazards Commission (NHC) formerly The Earthquake Commission (EQC)
Tuia Te Waiora	Owairaka Mt Albert branch of MWWL
Tuku whenua	A process of land gifting
Wāhi tapu	Sacred site
Waihangatia	(Verb) Construct, create, generate
Wairua	Spirit, can relate to concepts of balance and energy in the living world and beyond
Wairuatanga	Spiritual practice/s, referring to Māori spirituality
Waka	Canoe
Wānanga	A period of focussed discussion and knowledge generation. A forum for discussing tribal knowledge. To come together to deliberate, discuss, share knowledge and deepen understandings. In this study wānanga was employed as a culturally located data gathering approach
Wānangananga	Raise awareness
Whakakao	Gather together
whakamā	Shy, humble
Whakamua	Forward, ahead
Whakataukī	Māori proverb
Whakatinana	Manifest, create
Whakawhanaungatanga	Affirm connections, maintaining relationships
Whānau	Family, kinship group
Whanaungatanga	Relationships
Wharenui	Meeting house
Whenua	Land