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Ka mua, ka muri: Connecting tāngata to whenua through housing

Dr James Berghan, Kathleen Morrison, Violet Pou and Dr Fiona Cram

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Victoria University of Wellington, funded by the Building Research Levy

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VICTORIA UNIVERSITY OF WELLINGTON TE HERENGA WAKA

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KA MUA, KA MURI

Connecting tāngata to whenua through housing

RESEARCH REPORT

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FEBRUARY 2024

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Contents

Executive summary

This report outlines our research on designing Māori housing and kāinga that enable Māori to be well-housed and at home on their whenua. Drawing from existing literature, we focused specifically on how whare and kāinga can be designed with the impacts of climate change in mind. We held two wānanga with whānau at Pahaoa Marae, Te Kaha, in January and September 2023 and combined presentations from a range of experts, alongside activities and kōrero, exploring what is important to consider in a climate-resilient kāinga.

Some of our key findings include:

- Your ability to be climate resilient goes beyond physical aspects of housing and kāinga design. Being resilient is about living together and being connected, in community.
- Being resilient not only means having the ability to withstand increasingly frequent and severe weather events, but thinking about how we live so as not to exacerbate those impacts (including reducing the embodied carbon in new builds, or designing kāinga in ways that can encourage behaviours that reduce greenhouse gas emissions such as sharing use of electric vehicles).
- The foundation of a resilient kāinga development is the whenua. Securing the whenua was recognised as a critical first step in setting the foundation for any aspects of 'home' to be realised. This step alone can be a long and challenging journey for many.
- Resilience includes designing for the collective, and having the ability to remain in your whare or your kāinga 'from the cradle to the coffin'. Accessible kāinga designed for all abilities can support people to age in place, and support aspects of cultural and social resilience that come from staying connected to whānau and whenua.
- Sharing facilities (like a laundry or transport facilities) can support physical and social resilience. Shared infrastructure can encourage social connections amongst whānau, but it is important to consider a broad range of perspectives around what whānau are willing to share and the tikanga of how shared facilities are used and maintained.
- Masterplanning is an essential component of kāinga design. Taking a long-term view allows that holistic view of the village and ensures infrastructure can be designed strategically from the start, irrespective of whether the build process will be staged over a number of years.
- Moreover, masterplanning a kāinga is more than coming up with a housing plan; it's about coming up with a whānau plan. A kāinga (or papakāinga) is much more than housing, and might include other activities on the land such as growing kai, harnessing and producing electricity, growing trees and plants, having areas for recreation, supporting business activities, and more. Masterplanning can be used as a tool for kickstarting conversations about how your whānau wish to live together on the whenua.
- A challenge lies in simply starting conversations about climate-resilience, particularly in the face of immediate housing need. Our research highlighted the cathartic potential of the processes of coming together, of sharing information and building relationships, as the start of an 'information web' about climate-resilient kāinga.

Beyond this report, the next step is the development of a physical workbook aimed at supporting whānau wishing to kickstart conversations about climate-resilience in a housing context. The first version of that workbook is offered as a second part to this project report. Climate change impacts us all, and we need to respond at a global, national, local, and individual level. Our hope is that this report offers a small contribution to this collective goal.

1

INTRODUCTION & BACKGROUND

Introduction and background

Kia whakatōmuri te haere whakamua
I walk backwards into the future with my eyes fixed on my past

For Māori, the resilience of the building and housing system depends on its capacity to be culturally-responsive and able to deliver what Māori need and aspire to in order to be well housed and at home. This is much more than designing, consenting and building quality houses; it is about situating these homes-to-be within a landscape that is both a metaphorical and a literal cultural positioning system. This landscape has a whakapapa – multiple layers accumulated through time – of people living and belonging on the whenua, of others visiting and being hosted by mana whenua, and perhaps of others journeying across it or pausing to settle disputes there. Without this 'backwards' view of people living in relationship with the whenua, how can a system hope to successfully walk into the future to deliver a home place that enables Māori to tend to their home fires and embrace an authentic loving relationship with Papatūānuku?

This research project is part of a longer-term vision to establish a vibrant pā at Māori Land Block Te Kaha No 2C2 (known as 'Te Kinakina'). Te Kinakina comprises 61 acres of Māori freehold land situated on the Eastern Bay of Plenty coastline, within the tribal rohe of Te Ehutu/Te Whānau-ā-Apanui. In 2018, the landowners of this block held a meeting on the whenua and committed six hectares of lowlands to a wetlands restoration project led by their sister, Kathleen Morrison. The wetlands restoration project began with regenerative seed planting in 2020, and enabled the kāinga to accommodate and embrace ngā tamariki o Tāne Māhuta me ngā tamariki o Tangaroa (the descendants of the deities Tāne Māhuta and Tangaroa). In committing to reinstating kāinga for the non-human descendants of our environmental atua, the time has come to explore how whānau can be housed as part of this ecosystem.

Drawing on Te Kinakina as an in-depth case study, this project explores how to reinstate kāinga in ways that thicken the whakapapa thread between whānau, whenua and te taiao. As action research, this project first explores the whakapapa of Te Kinakina through a site analysis, followed by a practical co-design phase which explores the relationships between buildings, building materials and people, for coastal Māori land in the context of climate change. With Pahaoa Marae, we used Te Kinakina as a case study to act as a 'guided tour' for others to follow along and apply relevant learnings for their own whenua, and to identify weak spots in the process of site investigation and design for Māori land.

Māori housing and climate change

Housing and home ownership continues to be one of the most pressing issues facing New Zealanders, and even more so for Māori. Since World War II, Māori home ownership rates have continued to drop and are consistently lower than home ownership rates of our non-Māori counterparts.[1] The impacts of low home ownership rates are far-reaching, including increased mobility (typically not by choice), a decreased sense of stability and control, and the loss of intergenerational wealth transfer from the sale or inheritance of homes.[2] Māori are also over-represented in homelessness statistics, with some estimates suggesting Māori homelessness rates are up to four times that of non-Māori.[3]

[1] Stats NZ. (2020). Housing in Aotearoa: 2020. Retrieved from www.stats.govt.nz
[2] Statistics New Zealand. (2016). Changes in home-ownership patterns 1986-2013: Focus on Māori and Pacific people. Retrieved from www.stats.govt.nz ; Goodyear, R. (2017). A Place to Call Home? Declining Home-Ownership Rates for Māori and Pacific Peoples in New Zealand. New Zealand Population Review, 43, 3-34.
[3] Amore, K., Viggers, H., & Howden-Chapman, P. (2021). *Severe housing deprivation in Aotearoa New Zealand, 2018: June 2021 update.* Wellington, NZ: Te Tūāpapa Kura Kāinga – Ministry of Housing and Urban Development.

Notions of home, for many people but especially for Māori, are recognised in the literature as meaning something quite different from a 'house'.[4] For Māori, ideas of a 'home' commonly extend beyond the physical dwelling to broader notions of whānau, whenua and whakapapa.[5] Ancestral whenua and landscapes are embedded in identity and linked through whakapapa and longstanding connections. This acts as a prompt and reminder that Māori housing strategies need to go beyond the provision of physical structures to be able to deliver what Māori need and aspire to, in order to be both well-housed and 'at home'.

Existing Māori housing guides

Increasingly, efforts are being made to support culturally-appropriate and mana-enhancing housing for Māori that goes beyond just 'walls and beams'. A range of toolkits and guides have been published in recent years, aiming to support Māori collectives to navigate the processes involved with developing papakāinga and Māori housing. Arguably the most widely-used and referred-to documents is "A Guide to Papakāinga Housing" first published by Te Puni Kōkiri (TPK) in 2017.[6] The guide offers a six-step high-level process for developing papakāinga: (1) whānau planning, (2) workshops and research, (3) project feasibility, (4) due diligence, (5) building and project management, and (6) housing operations (shown in Figure 1).

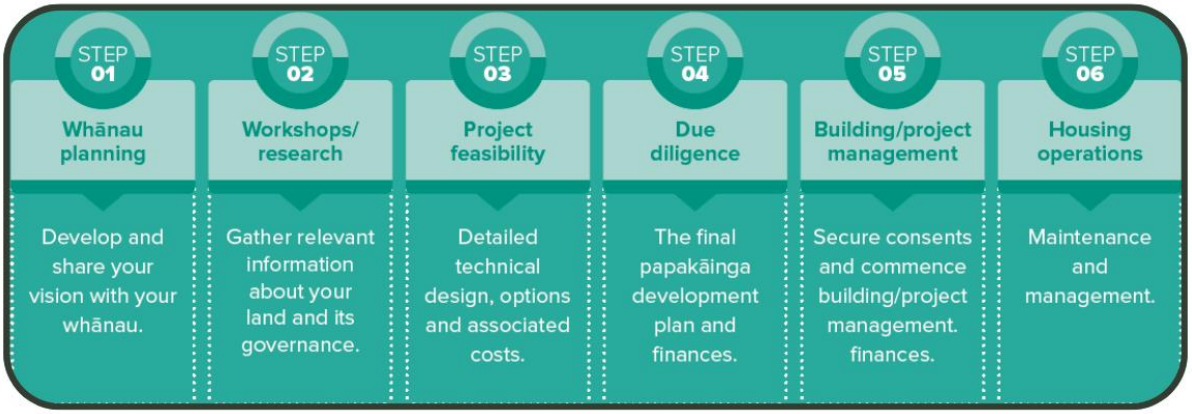

Figure 1: Te Puni Kōkiri offer a six-step approach for developing papakāinga housing (source: Te Puni Kōkiri, 2017).[7]

In addition to the TPK guide, a number of regions throughout Aotearoa have developed their own papakāinga toolkits outlining the processes involved in planning, designing, building, and managing a papakāinga build for hapori Māori (Māori communities) in their rohe. For instance:

- **Ngāpuhi Papakāinga Toolkit**, a 72-page toolkit for Māori land owners in Te Tai Tokerau looking to develop papakāinga housing. Developed by Te Rūnanga-Ā-Iwi O Ngāpuhi alongside Te Puni Kōkiri, the Far North District Council, Tai Tokerau Māori Land Court and Sanson & Associates, the toolkit adopts a three-phase approach for papakāinga development: tōku whenua, tōku whānau, and tōku whare.
- **Te Tai Tokerau Papakāinga Toolkit**, a 24-page toolkit outlining five key steps in the papakāinga development process: kaupapa/vision, information gathering, kōrero/discussion, technical advice, and getting consents. The toolkit was produced by

[4] 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, DOI: 10.1080/1177083X.2021.1920984

[5] Cram, F. (2020). *He mātou whare, he mātou kāinga hoki – a house that is a home for whānau Māori.* Report for Building Better Homes, Towns and Cities: Revitalising the Production of Affordable Housing for Productive, Engaged and Healthy Lives. May 2020, 32 pgs. Wellington: BBHTC

[6] Te Puni Kōkiri. (2017). *A guide to papakāinga housing.* Retrieved from Wellington, NZ: https://www.tpk.govt.nz/en/a-matou-mohiotanga/housing/a-guide-to-papakainga-housing

[7] Ibid.

Barker & Associates and sponsored by the Far North District Council, Kaipara District Council, Northland Regional Council and Whāngarei District Council.

- **Waikato Maaori Housing Toolkit**, a 68-page toolkit to support Maaori land owners in the Waikato District to develop papakāinga. The toolkit is based on four work streams: te aheitanga (establishing capacity), te mahere (technical planning and design), te tono (establishing demand), and putea (procuring finance).
- **Heretaunga Papakāinga Guide**, a 66-page toolkit which steps through the similar three phases: whānau, whenua, and whare.

As well as rohe-specific toolkits, guides are beginning to be developed for Māori housing with a particular focus areas. For example, Rauawaawa Kaumātua Charitable Trust (with Te Rūnanga o Kirikiriroa and the University of Waikato) published "He Keteparaha Tēnei Mō Te Whare Kaumātua: A Toolkit for Kaumātua Housing" in 2019, exploring housing development but with a specific focus on building for kaumātua.[8] Drawing from the success of the Moa Crescent Kaumātua Village, the toolkit allows others to follow in their footsteps to co-create kaumātua-centred housing communities.

Māori housing through a climate-resilience lens

While housing is one of the most pressing issues facing hapori Māori, housing cannot be considered in isolation from the growing challenges from climate change. Climate change is one of the most pressing issues facing us today and "is a threat to human well-being and planetary health."[9] While climate change impacts on all New Zealanders, hapori Māori will be disproportionately affected:

> *"Despite Māori households having similar exposure to climate hazards as the overall population, they are projected to face greater risks due to a higher proportion of Māori households at risk related to poverty, health disparities, justice and protection concerns."*[10]

Much of the literature on climate change and its associated impacts tend to focus on hazards and risks through a biophysical lens. While the physical impacts of climate change are critical to consider, our ability to be resilient cannot be separated from our relationships with one another. For example, Lambert describes the importance of connectivity for Māori resilience "enabled by a considerable network of people and resources being available to Māori through whānau, marae and kura".[11] Awatere and colleagues reinforce this notion, offering *He Arotakenga Manawaroa*, a kaupapa Māori framework for understanding risk and resilience for planning which similarly incorporates domains of social and cultural connectivity as key elements. The framework comprises three domains: whakaora whānau (resilient and strong whānau), whakahoki mauri (ensuring the essence of life and vitality remains intact and connected), and whakapakari kainga (sustaining and enhancing the built and natural environment).[12] This raises the question of how to build resilient housing and kāinga, in the face of growing impacts from climate change, that can

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[8] Reddy, R., Simpson, M., Wilson, Y., & Nock, S. (2019). *He kāinga pai rawa atu mō ngā kaumātua: He keteparaha tēnei mō te whare kaumātua/A really good home for our kaumātua: A toolkit for kaumātua housing.* Retrieved from Wellington: Building Better Homes Towns and Cities National Science Challenge: https://www.buildingbetter.nz/publications/ktkr/Reddy_et_al_2019_Toolkit_Kaumatua_Housing.pdf

[9] IPCC. (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, 3056 pp., https://doi.org/10.1017/9781009325844, p. 33.

[10] Te Puni Kōkiri. (2023). *Understanding climate hazards for hapori Māori – Insights for policy makers report.* Accessed 13 January 2024, https://www.tpk.govt.nz/en/o-matou-mohiotanga/te-taiao/understanding-climate-hazards-for-hapori-maori-ins

[11] Lambert, S. (2013). *Impacts on Māori of the Ōtautahi/Christchurch earthquakes,* Working Paper 2013-01. Lincoln University. Retrieved from https://researcharchive.lincoln.ac.nz/bitstream/handle/10182/5641/Lambert_Maori-Resilience_2013.pdf

[12] Awatere, S., Harmsworth, G., Taylor, L., & Harcourt, N. (2019). *He Arotakenga Manawaroa – A kaupapa Māori framework for assessing resilience.* Manaaki Whenua – Landcare Research New Zealand Ltd. Retrieved from https://resiliencechallenge.nz/outputs/he-arotakenga-manawaroa-a-kaupapa-maori-framework-for-assessing-resilience/

support broad notions of resilience as well as enabling hapori Māori to be well-housed and at home. This dilemma is the focus of our research project.

Research design

This project started with the overall question:

> *What could climate-resilient kāinga look like for Māori land block owners looking to reinstate pā sites on their whenua?*

To address this question, we start from a foundation of mātauranga Māori. Mātauranga Māori is embedded within all aspects of our lives as we seek to look and look again to explore and understand our world as Māori, something we do "physically, ethically, morally, and spiritually, not just in one's capacity as a 'researcher' concerned with methodology".[13]

The relational web of whakapapa retrieves Indigenous spaces and places for connecting - connecting people to one another, to other life forms, to other ways of seeing, knowing, and understanding the world. It is in the acts of engagement and connection with whānau that we come to use our own words, symbols, icons, and metaphors to explain our understandings. From this perspective, Mātauranga Māori becomes a flexible and responsive "tool for thinking, organising information, considering the ethics of knowledge, the appropriateness of it all and informing us about our world and our place in it".[14] Through the building of honourable relationships, we can create communities wherein everyone has something to learn and something to teach (ako), so we all leave having shared and having gathered mātauranga. This forms the basis of our project methodology.

Building on an initial literature review, we conducted two wānanga with whānau from Te Whānau-ā-Apanui to allow for in-depth discussion and deliberation to arrive at shared and collective understandings of what climate-resilient kāinga might look like.

- Our first wānanga was held on 28-29 January 2023 at Pahaoa Marae and was attended by 18 whānau members. Here, we explored notions of home, masterplanning, and innovative housing solutions to a range of environmental and social challenges.
- Our second wānanga was held on 09 September 2023 at Pahaoa Marae over one day, attended by 10 whānau members. At this wānanga, we explored more detailed and nuanced notions of a dream whare and what it means to live together.

Wānanga participants were recruited using a snowball sampling method led by two community researchers on the research team, and in consultation with the Pahaoa Marae committee. Prospective participants were identified and invited, with an open invitation extended for them to bring others who may be interested in the kaupapa.

Group discussions at both wānanga were audio-recorded and transcribed manually. One member of the research team also kept written field notes during the wānanga to supplement the audio recordings. After each wānanga, the research team engaged in reflective discussions which were also audio-recorded and transcribed, and added to the suite of data for this project. All data were analysed thematically, but with priority on amplifying the kōrero shared by participants at the wānanga.

Ethics approval for the project was granted on 24 January 2023 through the University of Otago Human Ethics Committee (Category B – Departmental Approval).

[13] Bishop R. (2005). Freeing ourselves from neocolonial domination in research: A Kaupapa Māori approach to creating knowledge. In Denzin N., Lincoln Y. (Eds.), *The Sage handbook of qualitative research* (3rd ed., pp. 109–138). Thousand Oaks, CA: Sage, p. 130.
[14] Mead, H. M. (2003). *Tikanga Māori: living by Māori values*. Wellington, NZ: Huia, p. 306.

Structure of this report

This report is structured as follows:

- This section has introduced the broad foundation and rationale for this project, including the methodology for undertaking the research.
- The next section below introduces Te Kinakina, the case study block underpinning our research project.
- Following this, two parallel sections explore kāinga and whare:
    - ‘Kāinga’ introduces the specific activities and findings from our first wānanga held at Pahaoa Marae in January 2023. The section concludes with key themes that emerged when thinking about climate-resilient kāinga.
    - ‘Whare’ introduces the specific activities and findings from our second wānanga held at Pahaoa Marae in September 2023. This section also concludes with key emergent themes, but with more of a focus on the whare within the kāinga.
- The report concludes with a brief summary, including limitations of the research and recommendations for further and future research.

2

CASE STUDY: TE KINAKINA

Case study: Te Kinakina

Mai i Taumata-ō-Apanui ki Pōtaka	From Te Taumata-ō-Apanui to Pōtaka
Ki Whanokao te maunga	Whanokao is the mountain
Ko Mōtū te awa	Mōtū is the river
Ko Whakaari te puia	Whakaari is the volcano
Ko Apanui te tangata	Apanui is the ancestor
Ko Te Whānau-ā-Apanui te iwi	Te Whānau-ā-Apanui is the tribe
Tihei mauri ora!	The breath of life!

The tribal territory of Te Whānau-ā-Apanui comprises 13 hapū situated along the narrow coastal strip between the Raukūmara Range and the eastern Bay of Plenty, a strip that is a high-risk hazard zone. Both the Bay of Plenty region and Whakatāne District are vulnerable to natural hazards including flooding, coastal inundation and land subsidence – hazards which are only expected to become more extreme as a result of climate change, leaving those people in close proximity to the sea at risk.

Small pockets of whānau are beginning to take climate change action both at a local and individual level. One such family, living on Māori land block Te Kaha No 2C2 (also known as "Te Kinakina") has begun to think about house design and village settlements within the context of extreme and hazardous weather conditions. Te Kinakina is the primary case study used in our research project.

Site description

Te Kinakina spans 22.68 hectares, jointly owned by six siblings of the Tukaki-Morrison whānau. The site encompasses a variety of terrains, including lowlands designated for wetland development as well as elevated, flatter areas currently in pasture and cultivation, punctuated by two intersecting valleys that cross the whenua. The Pakarunui Stream meanders through the northern portion of the site, through to the Te Kaha coastline and the Bay of Plenty.

Anchoring the block is a homestead tracing back to the 1930s, complemented by additional buildings including a studio space and visitor accommodation. The whenua has a rich history, having been under a long-term farming lease before only recently being returned to the Tukaki-Morrison whānau, symbolizing a connection to the past and a commitment to its sustainable and meaningful future.

Site photographs

The following pages contain a number of maps and photos of the site to provide context for the site. A series of historic aerial images of the site give some insight at least to the recent past of the site.[15] After 1939, we can see the development of an accessway into the site and associated farm dwellings such as the cowshed. The steep banks enclosing the gullies become planted and the land is cleared for agriculture.

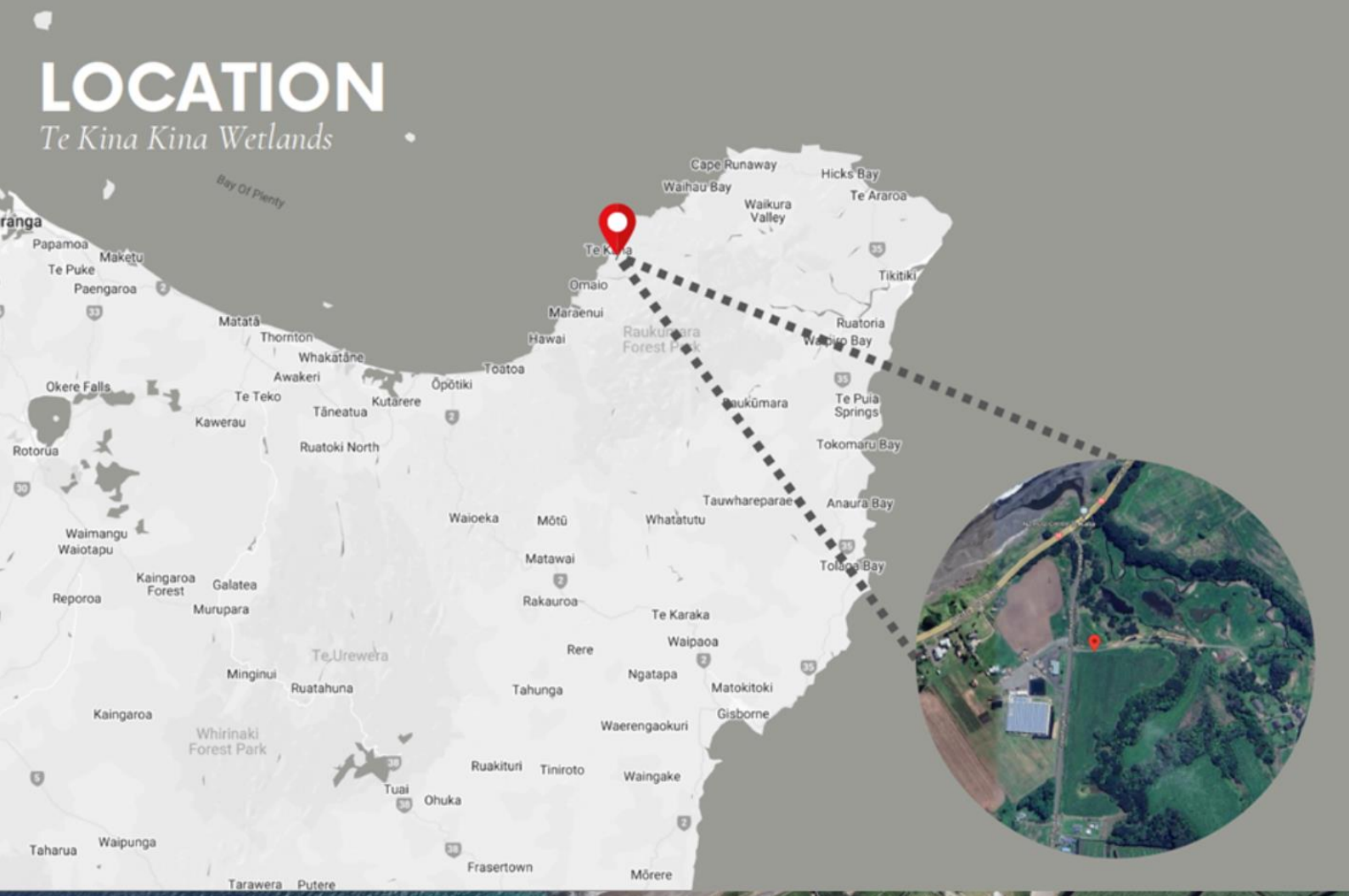
From 2021, we start to see earthworks being undertaken on the land to allow water to pond and form the wetland ponds that exist today. The location of Pakarunui Stream in the most recent image (2022) is perhaps at its most variable from the images collected.

Images following these aerial photos showcase the wetland ponds and associated plantings (in regular weather and when in flood), sculptures and gullies on the site, and the main access point to and from the site.

[15] Retrolens – Historical Image Resource. (n.d.). *Retrolens images.* Retrieved from https://retrolens.co.nz/

LOCATION

Te Kina Kina Wetlands




1939


2018


1966


2019


2002


2019


2011


2021


2012


2022


TE KAHA
BAY OF PLENTY


TE KAHA
BAY OF PLENTY


TE KAHA
BAY OF PLENTY


SHUT-GATE
TE KAHA
BAY OF PLENTY

Access

Te Kinakina is accessed by a gravel driveway, connecting to the sealed two-lane Copenhagen Road at its western boundary. The main form of transport to and from the site is by private vehicle. Images on the previous page show the existing condition of the road and primary access point.

Land use

The site comprises a mixture of arable land (shown yellow in the image below-left), native forest (green), and lifestyle/mixed use land (purple). With the return of the whenua to the Tukaki-Morrison whānau following the long-term lease for use as farmland, the low-lying areas of the whenua have been restored to wetlands.

Figure 2: Land use (left) and tsunami evacuation zones (right), with approximate boundaries of Te Kinakina shown.

Tsunami evacuation

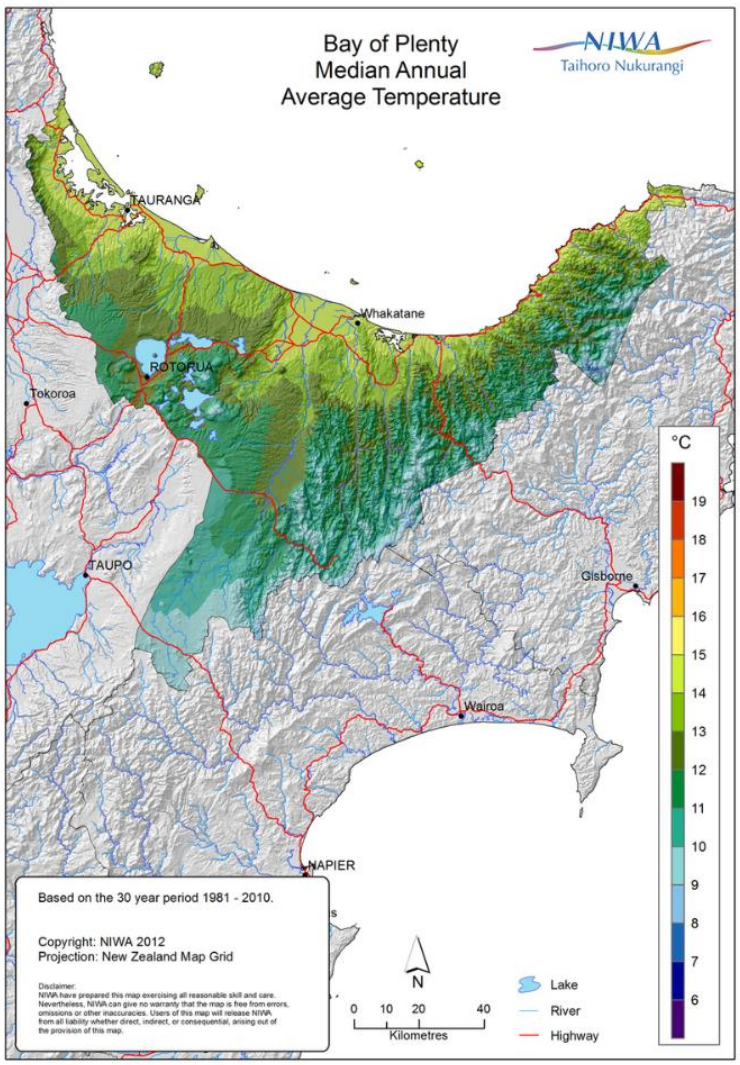
Given the proximity of the site to the coast, low-lying areas of Te Kinakina are identified as zones to be evacuated in the event of a tsunami (shown blue in the image above-right). The zones generally follow the two gullies in the site which are relatively close to sea level. Areas outside of the zone are generally 20m or more above sea level.

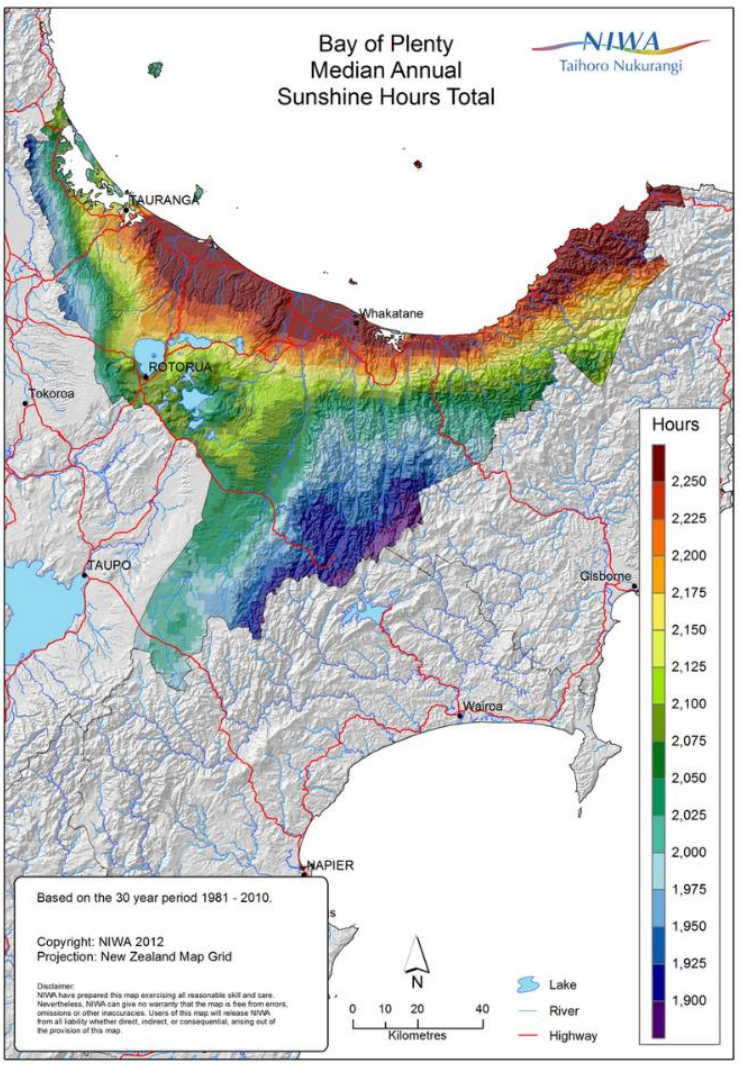
Microclimate

The Bay of Plenty is generally a sheltered but sunny region. Regional maps obtained from NIWA[16] for the Bay of Plenty region (on the following page) shed some light on some general elements of the microclimate for Te Kinakina:

- The average yearly temperature for the region is 14.7 degrees Celsius, with higher temperatures closer to sea level and the coast.
- Generally, the northern side of the region receives the greatest number of sunshine hours (2250 hours of sunlight per year) shown by the darker red of the map on the top-right.
- While the terrain tends to shelter most of the Bay of Plenty from high winds, the western Bay of Plenty (including Te Kaha and our site) is more exposed than the rest of Bay, shown by the green colours of the map in the centre. Given the site's proximity to the coast, the northerly sea breezes particularly impact the site.
- The pattern of rainfall broadly reflects the variation in elevation across the bay, with higher sites receiving higher annual levels of rainfall.

[16] NIWA Taihoro Nukurangi. (n.d.). *Bay of Plenty.* Retrieved from https://niwa.co.nz/climate/national-and-regional-climate-maps/bay-of-plenty


Bay of Plenty
Median Annual
Average Temperature
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
°C
19
18
17
16
15
14
13
12
11
10
9
8
7
6
Based on the 30 year period 1981 - 2010.
Copyright: NIWA 2012
Projection: New Zealand Map Grid
Disclaimer:
NIWA have prepared this map exercising all reasonable skill and care. Nevertheless, NIWA can give no warranty that the map is free from errors, omissions or other inaccuracies. Users of this map will release NIWA from all liability whether direct, indirect, or consequential, arising out of the provision of this map.
N
0 10 20 40
Kilometres
Lake
River
Highway


Bay of Plenty
Median Annual
Sunshine Hours Total
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
Hours
2,250
2,225
2,200
2,175
2,150
2,125
2,100
2,075
2,050
2,025
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Based on the 30 year period 1981 - 2010.
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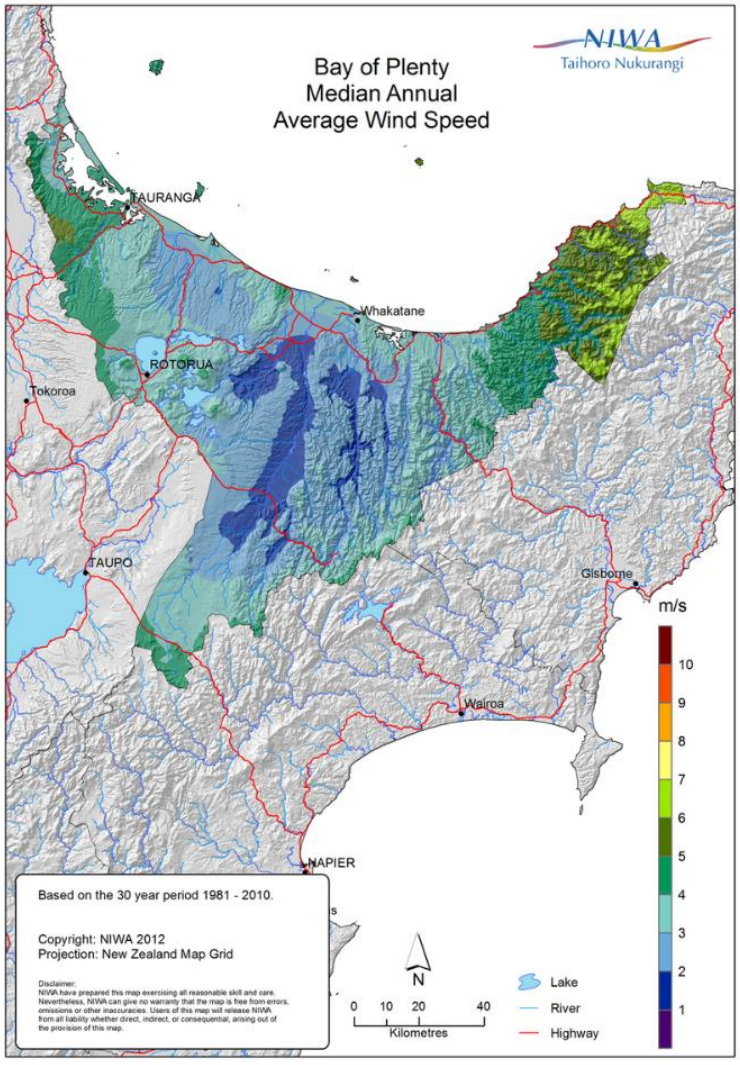
0 10 20 40
Kilometres
Lake
River
Highway


Bay of Plenty
Median Annual
Average Wind Speed
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
m/s
10
9
8
7
6
5
4
3
2
1
Based on the 30 year period 1981 - 2010.
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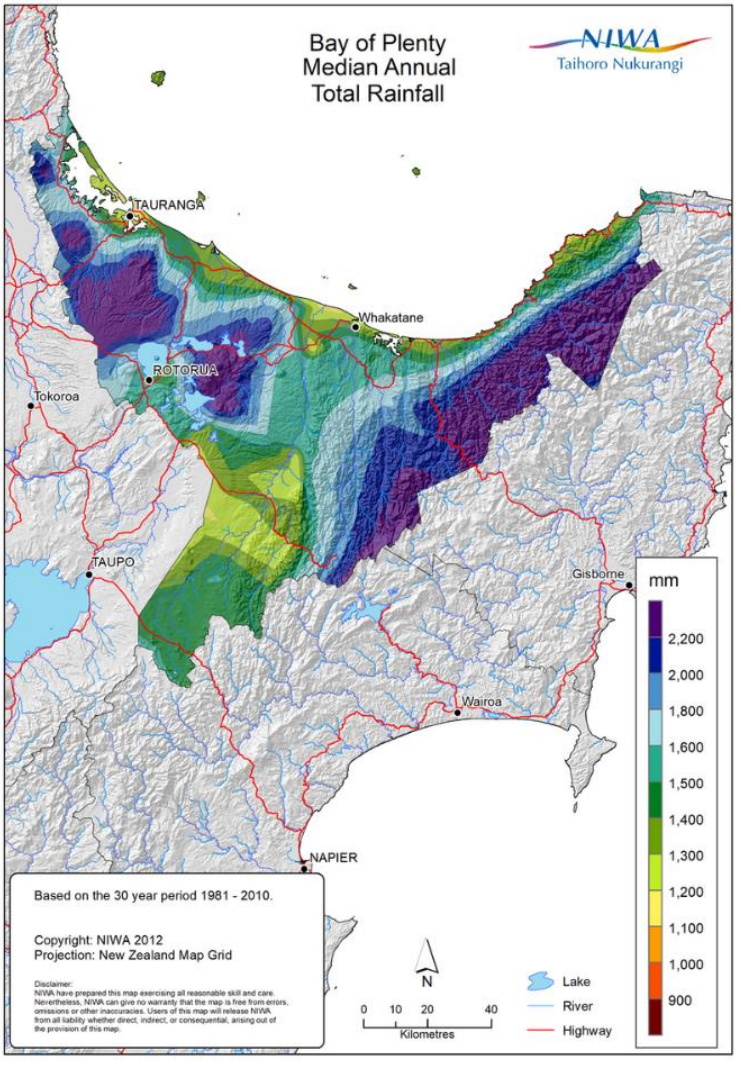
N
0 10 20 40
Kilometres
Lake
River
Highway


Bay of Plenty
Median Annual
Total Rainfall
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
mm
2,200
2,000
1,800
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
Based on the 30 year period 1981 - 2010.
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N
0 10 20 40
Kilometres
Lake
River
Highway

TYPICAL SITE ANALYSIS

BIO-PHYSICAL

+ EXISTING FEATURES
  - wetland restoration areas
  - Pa Haraweke
  - views to the South Pacific Ocean
  - areas of existing bush
  - Paikaranui Stream
+ EXISTING BUILDINGS
  - Existing Kauanga
  - Cow shed building footprint
+ VEGETATION
  - Harakeke
+ Views
  - views to Whakaari White Island
  - to the South pacific ocean
+ MICRO-CLIMATE
  - favourable daylight access
    - be wary of N facing hill
  - SW, W, SE prevailing winds
    - N-S little to no winds
+ HERITAGE SITES
  - 3x sites of archaeological significance (battlegrounds?)
    - Pa/urupa sites Bam council, no more info...
+ FLOODING + CATCHMENT
  - in stormy situation there is silt run-off down stream of Paikaranui Stream.
  - be wary of rising and falling levels in Paikaranui Stream
+ TOPOGRAPHY
  - minimal topographical change on site of walkway, but some in surrounding valley

REGULATORY

+ REGIONAL AND LOCAL COUNCIL BOUNDARIES
  - Opotiki district council
  - Bay of Plenty regional council
+ RECORD OF TITLE
  - 298 Copenhagen Road, Te Kaha, BOP, 3199, NZL.
  - Māori freehold land, Te Kaha 2C2
  - 61 shares to 6 allocated owners, 226839 m², 56 acres, Waiariki district.
+ LAND USE
  - half site is arable (agriculture)
  - other half is lifestyle / mixed land use
    - this is where art studio is located
  - Opotiki district council classifies as coastal residential zone
+ OPOTIKI DISTRICT COUNCIL
  - council control
    - Max. 40% building site coverage
    - 9m max. building height
    - design + appearance
    - effect on water bodies
    - vegetation, archaeological site impact.
  - controlled activities w/ resource consent
    - public toilets
    - community and recreation activities that exceed 100 m²
  - Min. 25m distance of building to stream with 3m aver. width or more. 10m if less.
  - 1x parking space per 20 m² of activity area.
  - 1.1 m² maximum signage for community recreation activities
  - Storm water, waste water, freshwater provisions
+ BUILDING PERFORMANCE
  - "Residential BCI barrier not req. for garden ponds & similar water hazards not intended to be used as a pool".
+ HAZARD MAPS
  - whole sit is in tsunami evac. zone
  - site intersects coastal env. zone and indigenous biological diversity space
  - art studio building site is located on Waiapu stony sand (Wug) rest of site is Te Kaha sandy loam (TEK)

SOCIO-CULTURAL

+ STATISTICS NEW ZEALAND VIA CITY POPULATION
  - Population
    - 1996: 380
    - 2001: 390
    - 2006: 310
    - 2018: 340
    - 2022: 400
  - Area: 16.17 km²
  - Population density: 24.73/km²
  - Gender Distribution
    - Males: 190
    - Females: 210
  - Age Groups
    - 0-14y: 80
    - 15-64y: 250
    - 65+y: 70
    - Median age: 41.2 y/o
  - Ethnic Group
    - European: 99
    - Māori: 282
    - Pacific: 3
    - Asian: 3

(Brainstorm summary by Ben Siesicki)

3

STRAND: KĀINGA

Strand: Kāinga

This section explores the theme of 'kāinga' in a climate-resilience context. The comments in this section of the report draw from our first wānanga held at Pahaoa Marae over two days in January 2023.

What we did

The first wānanga included a range of activities and presentations, beginning with a pōwhiri to welcome the research team to Pahaoa Marae and whakawhanaungatanga for everyone to meet one another and discuss what our collective goals were for the two days.

We included a range of activities to canvas topics related to housing as follows.

1. The HOMING method

The HOMING method[17] is a way of exploring what makes a house a home, using small wooden blocks and marker pens. In small groups, whānau took some time to discuss what it means to be well-housed on your whenua. Their goal was to come up with 8-10 of the most important ideas or factors that were important to the group, in a home. Once those top 8-10 factors had been decided, groups labelled each wooden block with one factor per block.

With the blocks labelled, groups were then tasked with arranging their 8-10 blocks into a tower or other structure that allowed them to order the factors in some way from most to least important. How each group built their tower was up to them, depending on the relative importance (for instance, if factors were considered equal, they might be placed on the same level as one another; others might be stacked on top of each other to show relative importance).

The images on the following page show some of the structures created by our groups. Factors and structures are discussed in more detail in the section that follows.

2. Housing presentations

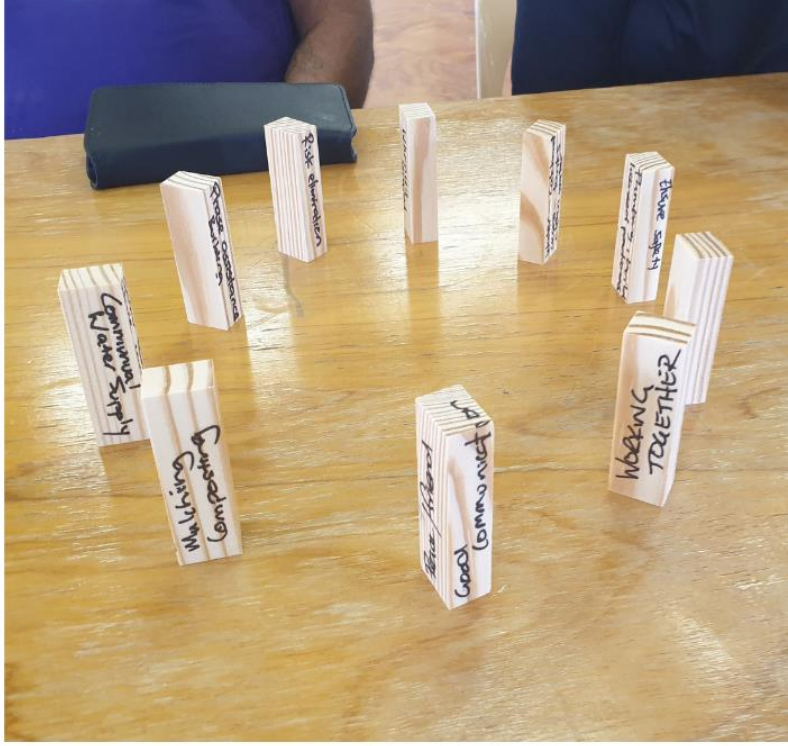
The wānanga included two presentations from experts in housing fields, as a means of sharing information but also to provide prompts for kōrero later in the day.

Gerard McCormack (Ōpōtiki District Council) shared insights on district planning from a planning perspective, including key development aspects to consider and local council processes that are involved. He encouraged whānau to develop long-term masterplans, to consider the inclusion of ecological design features, to include shared infrastructure (and how this can be supported logistically), and to not be constrained by barriers (which may be easily resolved).

Dr James Berghan (University of Otago, now Te Herenga Waka – Victoria University of Wellington) shared a range of papakāinga and cohousing case studies, focusing particularly on shared infrastructure as well as how design can be used to support social connections between whānau living in these developments.

[17] A full instruction guide for carrying out the HOMING method is attached as an appendix to this report.


All goes-
Kaumatua-Mok
Kai Gardens
Whole


Working Together


TE KAHA
BAY OF PLENTY


Kai
LOCAL Knowledge
Hi/low pts Hz
Sunlight & Garden
Warm Taupo
Housing –
Road Access +
Services
Planning 4
Sustainable
Costs of
pumping water
forces water
UP
Wind + H2O
MONITORS
Special Places
on your Whenua
Places of
Eating
Places of
Isles of passage


TE KINAKINA
case study


TE KAHA
BAY OF PLENTY

3. Masterplanning exercise

We printed large (A1 size) aerial photos of a site map of the Te Kinakina block, including contour lines. In groups, participants were tasked with locating and labelling the following features:

- Find the highest point on the land block.
- Find the lowest point on the land block.
- Find the steepest area/s of land.
- Find the flattest area/s of land.
- Find the height difference between the highest and lowest points on the block.

Following this, groups had to decide what features could be included in a kāinga on the whenua and where those different use areas would best be located on the whenua (see images on previous page). After working in groups to come up with a masterplan for the whenua, each group presented their plan back to the wider group with shared kōrero about the ideas that emerged.

Following the hui, a short series of masterplan concept layouts were developed for a six-unit kāinga on the portion of the whenua that all groups had identified as most suitable for building on. These concept sketches are provided at the end of this section, and include different clusters of whare alongside a shared/communal dwelling, linked by networks of footpaths around māra kai.

4. Reflections

Both days finished with a round of reflections with participants and the research team, to share highlights of the day, questions that still remained, and what people would like to see happen next.

What we found out

A range of points and perspectives were raised during our two days of discussions. In this section, we have woven together some of the key ideas that emerged from the wānanga, drawing collectively from our kōrero across the four activities. Quotes from wānanga participants are shown indented in italics.

1. The foundation of a development is the whenua

First and foremost was the recognition that before any housing or development can take place, for some people, there was an initial step of securing the whenua itself:

> *In order for anything to happen, to get those results, to get the safety and the aroha [i.e. the 'outcomes' of a good home], you need a solid foundation. The first thing we talked about was securing the land.*

For instance, during the HOMING exercise, one group dedicated the wooden table as the whenua, being the foundation that is needed before any of the other aspects of a good home could be placed upon. Only once the whenua was secured and in the hands of tangata whenua could options for housing and design meaningfully start.

2. Kāinga development means having a collective focus

Once whānau began conceptualising designs for kāinga, all group designs had elements of a collective focus in what they were constructing. For one group, the design was centred on much broader notions of whānau than the immediate nuclear family:

> *It's about a whānau focus. It's about us, as opposed to me and my and I… whānau for Māori doesn't stop at your immediate nuclear whānau but goes far beyond that. It's about keeping that [notion of whānau] wide and open and inclusive.*

Thinking collectively in this sense was similarly reflected in physical design elements, and the pragmatic benefits that could come from sharing infrastructure within the collective:

> *It's about the collective…instead of having individual risks and individual bills, it's about coming together. Everybody wants safe, clean water, power…we all want access to that, so why not do it collectively?*

When taking a collective rather than individualised focus, there is the potential to draw lessons from other similar collective housing models such as cohousing, which suggest that having a collective focus can help to facilitate multi-generational households to come together and work together too.[18] This aligned with suggestions from participants at the wānanga that a kāinga should consider all ages, including rangatahi and tamariki (the 'future generations') but equally, our kaumātua and kuia too:

> *It's important to think about rangatahi but also not to forget about older people. We've got plenty of years left in us, just because we're retired doesn't mean we're at home sitting in a rocking chair.*

One participant summed this up succinctly with their dream kāinga:

> *We're accommodating from the cradle to the coffin.*

There was a clear recognition amongst some participants that kāinga should be designed in ways that, if you don't want to, you never have to move away from the kāinga:

> *We said in our village, we would never have to move. We would be born there and we would die there.*

There should be the flexibility and accessibility in the design that it is suitable and usable for all.

3. Designing a kāinga includes designing how we live together

There was a clear recognition amongst whānau in our wānanga that when we come together and live within close proximity to one another, we need to think about the impacts of living closely. Participants were clear on the need for setting the tikanga for a kāinga in order for it to work harmoniously, so there are some collective guidelines and a shared understanding of what constitutes 'good' behaviour in the kāinga:

> *Working out how we can work together, as a collective. Like a code of behaviour as well. How do you talk to your family about no Holdens being tied up to the fence for 100 years? That sort of thing.*

Literature highlights the need for educating prospective residents in collective-focused housing and kāinga about what it means to live together, and particularly where this might differ from individual household living.[19] For whānau that have been living away from their ancestral whenua in more individualised housing and neighbourhoods, there might be a period of 'relearning' how to live more collectively in a kāinga-style environment.[20]

In a similar way, some of the spaces which might be designed to allow residents to physically gather together in a space also have broader community-building ideas and notions embedded:

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[18] James, B., & Saville-Smith, N. (2017). *Cohousing: An enduring idea but is it a new opportunity for older people?* Wellington, NZ: Centre for Research, Evaluation and Social Assessment.
[19] Dupuis, A., & Dixon, J. (2006). 'Getting on': An agenda for living close together. In M. Thompson-Fawcett & C. Freeman (Eds.), *Living together: Towards inclusive communities* (pp. 227-240). Dunedin, NZ: Otago University Press.
[20] Berghan, J. (2020). *Ecology of community: Exploring principles of socially-based tenure in urban papakāinga and cohousing communities* (Thesis, Doctor of Philosophy). University of Otago. Retrieved from http://hdl.handle.net/10523/10529

I'm thinking about māra kai. Māra kai weren't initially set up to provide food. They were set up at marae and at community spaces for people to meet and talk about this stuff. So I think there are spaces for wānanga…and in these spaces, we take the marae with us. Because it's both a physical structure and a way of behaviour. All these spaces kind of emulate our spaces for sharing knowledge, and passing on and connecting, as whanaungatanga.

4. Masterplanning (whānau planning) is essential

One of the most essential learnings from this first wānanga was the need for masterplanning. A masterplan is a comprehensive plan of an entire development. It includes the immediate area being considered for development, as well as areas that may not be built for several years into the future. Having a full and comprehensive birds-eye view of the development ensures that all of the components of development (whether built now or in the future) fit seamlessly into the larger scheme.

When it came to trying out a masterplan for a block of land, we used Te Kinakina as a test case. In groups, we each came up with a long-term vision for the whenua including multiple land uses across the whenua. In doing so, it was clear that to start such an activity needed whānau input:

We employed the services of local knowledge, first of all. That was all important. We had to talk to someone from the papakāinga.

Once groups had that input and local knowledge though, with little guidance, groups were naturally discussing, negotiating and balancing different use areas for different conditions across the site that best suited. For example, groups were:

- identifying where the prevailing winds were to consider planting a shelter belt or avoiding that area for homes more generally;
- identifying high and low points on the site to locate potential water supply tanks;
- assessing the site's access to sunlight to identify the best sites for gardening;
- locating existing services such as existing roads and electricity lines, to make sure any homes would be more accessible to the existing transport networks and potentially reduce costs of connecting to that existing infrastructure;
- identifying slopes and steep areas and steering clear of those areas for building;
- identifying potential areas for wastewater runoff from the homes; and
- considering the relationships between future homes and wāhi tapu or old pā sites, as well as contemplating the potential for allocating space for an urupā.

As well as kai gardens being a source of food and a collective gathering and knowledge-sharing space, kai gardens (and other shared infrastructure) also had the potential to contribute in an economic sense on the kāinga:

Kai gardens…in context of climate change, not just kai gardens but green houses, shade houses…all of this could go back into the community as businesses. If you actually got funding to set up proper electricity stations and stuff, and have it come back to the grid, or have a business, then you could build up the putea and offer scholarships etc. Even surplus of kai, you could have it at a market. Imagine a network of marae running a circuit of night markets!

The consideration of urupā again led to discussions around life course and how the process of designing a kāinga could support broader discussions amongst whānau:

When you're doing your master plan, what a beautiful opportunity to talk about life course…where are the places that people birthed? Where are the places

and the passing of people? And all the places in between that are celebrated? And how do you have those special places, the memory places on the whenua that just nurture people and their wairua at all these times in their lives?

5. Whānau generally maintained a sense of optimism

On reflecting on this first wānanga, many participants reflected on a sense of optimism about innovative housing ideas and processes:

> *[Question: What is one reflection or one lesson you have taken away from our wānanga this weekend?] I think what I've got to say has already been said, but…number one, I've got here is the obstacles need not be the total obstructions. That by seeking assistance early, they need not actually exist, what we perceive as being obstructions. So, seeking assistance early, and from the council, so these things can be dealt with early and create less hypertension!*

Having a key Council staff member front up in person, for participants to create a connection with and build a relationship with, highlighted the key role of whakawhanaungatanga in helping to appease tension around Council processes. This was balanced against concerns about the turnover of Council staff, and that those personal relationships change when different people move on and change roles (and may not necessarily continue on with the next person in that role). The optimism of participants to the Council staff member, though, and his openness to innovative housing ideas and solutions is at odds with more general reporting on the systemic inertia of planning, planning legislation and planning policy frameworks in NZ.[21]

Similarly, some of those feelings of optimism were related to thinking about new ideas and innovating:

> *The other thing I appreciated was that 'thinking outside of the square'. Not being limited by our past, or how homes have been in the past. Not being stuck with those limitations, but really letting our imaginations run free so that we can have the best of what our tīpuna used to have, but also have the best that modern technology has to offer, and what our Treaty partner brings.*

Despite the sometimes-daunting prospect of the dual challenges of housing and climate change, it was refreshing to hear whānau feeling energised and enthusiastic to innovate and look to the future with a positive outlook.

Summary

This first wānanga raised a number of considerations when it comes to designing a kāinga. First and foremost was the need to secure the whenua for any design and development to be considered. With the whenua in place, though, taking a collective focus was critical: both in the sense of designing in physical spaces where whānau could come together and work together, but also how the infrastructure for multiple houses could be brought together and designed in ways that allows for sharing, as opposed to requiring individualised connections for each whare.

Discussions touched on ideas of the social architecture in a kāinga, and how it is important to design not just the physical elements of the kāinga but also think about the tikanga of the kāinga, and what it means to live closely with one another. As part of this was the consideration for ageing in place, and designing in ways that mean whānau can live in the kāinga for life, should they wish to.

[21] Manning, M., Lawrence, J., King, D.N., & Chapman, R. (2015). Dealing with changing risks: a New Zealand perspective on climate change adaptation. *Regional Environmental Change, 15,* pp. 581–594. https://doi.org/10.1007/s10113-014-0673-1

Perhaps the most salient point, though, was that your masterplan is much bigger than just a plan for designing and locating buildings, structures, and other infrastructure on the whenua. Instead, the masterplan is much bigger, and is better conceptualised as your whānau plan:

> *Look at your masterplan. And it's not just a plan for housing. It's a whānau plan. It's not just how are we gonna do housing. It says, what is our master plan for our whānau?*

Thinking about a whānau plan takes the notion of kāinga development to a much richer and deeper conversation. In the next section, we explore how to approach the design of whare within that overall whānau plan.

ABOVE: Kāinga layout with six standalone whare and a shared common building in the centre (drawing by Oscar McConaughy).

ABOVE: Kāinga layout with one mega-whare, comprising six units and a shared building in the centre (drawing by Oscar McConaughy).

ABOVE: Kāinga layout with six units (two duplexes, two standalone whare) and a shared common building in the centre (drawing by Oscar McConaughy).

ABOVE: Kāinga layout with three duplexes and a shared building in the centre-left (drawing by Oscar McConaughy).

4

STRAND: WHARE

Strand: Whare

This section begins to narrow the scope from the kāinga, to explore elements of specific whare within a climate-resilience context. The comments in this section of the report draw from our second wānanga held at Pahaoa Marae over one day in September 2023.

What we did

The second wānanga included a range of new activities as we turned our focus from kāinga more broadly to think more specifically about the whare that would be within the kāinga.

1. Brainstorm: challenges to our resilience

To set the scene for our focus on climate-resilience, we used post-it notes to brainstorm a range of factors that were considered to be challenges to our individual and collective 'resilience'. Each factor was written on a separate post-it note and added to a larger, collective brainstorm and summarised for the group.

The prompt was kept purposefully broad to allow participants to draw from a range of experiences and perspectives, to draw out key factors. A summary of the key points is included in a photo on the pages that follow.

2. Your dream whare

Our wānanga included a creative exercise, where participants were tasked with designing a floorplan for their 'dream whare'. The brief was purposefully broad: it could be as realistic or as aspirational as people wanted. Some people used graph paper to get a sense of scale for their drawings (where, for instance, one square is equal to one metre), while others used blank paper for those who wanted to take a more artistic approach. Others chose to describe their dream whare in words rather than by drawing.

After about 30 minutes of time thinking up and sketching or writing about their dream whare, each participant took turns presenting their visions to the rest of the group, showcasing different innovations and priorities, and inspiring ideas for others to adopt.

Some images follow, showing an example of a floorplan sketch alongside presentations back to the group.

3. The sharing line

Following morning tea, we then moved on to 'the sharing line', In this exercise, a length of masking tape is placed in a straight line on the floor. Labels are placed at either end of the line: at one end, the label "YES" is placed. At the other, the label "NO" is placed.

Each participant labelled a post-it note with their name, and over the next 45-60 minutes, we offered a series of prompts about sharing within a kāinga environment. Individuals then positioned their named notes on the line, depending on whether they agreed that they could share that particular feature with their immediate neighbour ("YES") or if they disagreed, and did not want to share that particular feature ("NO"), or anywhere in between.

Prompts we discussed included:

- Would you share a bathroom/toilet?
- Would you share a laundry?
- Would you share a car?
- Would you share a kitchen?

After each prompt, participants placed or moved their name along the line and were given the opportunity to explain their view. The activity helped shed light on what people are willing to share alongside the non-negotiables in communal living.

4. Energy presentations

A key aspect of our wānanga centred on the sharing of knowledge, both from within the group and from outside the group. At this wānanga, we shared one short pre-recorded presentation showcasing Gerry Magner's work offering solar energy for housing in his role as a Bay of Plenty local and director of Solar Options NZ Ltd. This video helped centre resilience in kōrero about alternative power sources for whare and kāinga.

5. Reflections

As with the first wānanga, we concluded with a brief reflection session amongst participants about key points that had come up during the day and next steps.

What we found out

In this section, we have woven together some of the key ideas that emerged from the day, drawing collectively from across the activities. Quotes from wānanga participants are shown indented and in italics.

1. Our resilience can be challenged by physical and non-physical factors

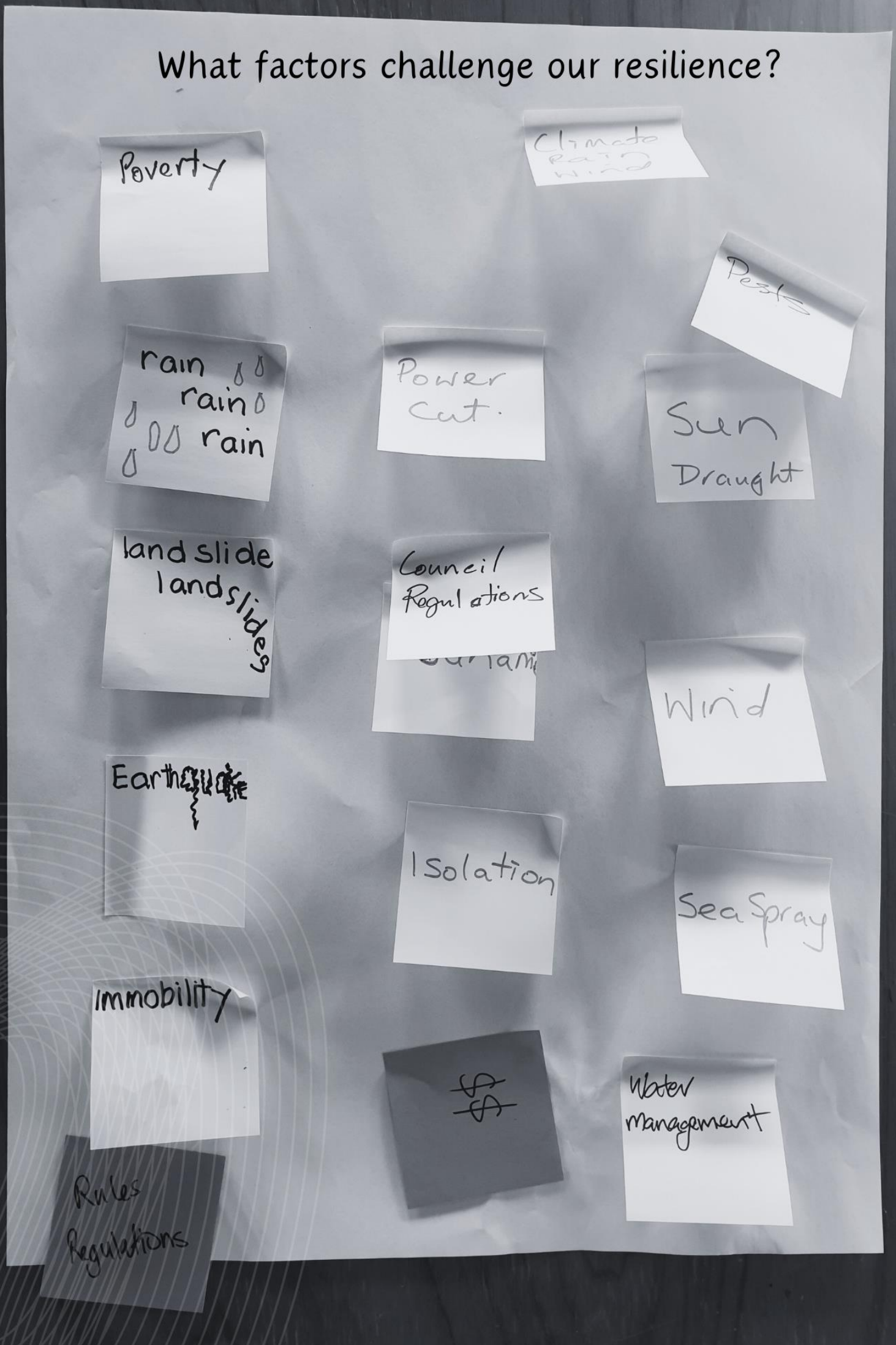
From our initial brainstorm of factors that challenge our individual and collective resilience in a kāinga, participants came up with a range of ideas which could be broadly categorised as either physical (i.e. climate and infrastructure-related factors) or non-physical factors. These are summarised in the table below and illustrated in the photo on the following page.

Table 1: Brainstorm of factors that affect our resilience when building a kāinga (summary of ideas from wānanga).

Physical factors	Non-physical factors
• Rain • Landslides • Earthquakes • Sea spray • Tsunami • Sun • Drought • Wind • Pests • Power cuts • Water management • Isolation	• Poverty • Immobility (i.e. physical mobility restrictions) • Rules and regulations • Council regulations • Isolation • Money/finances

Isolation is considered in both columns here, for both the physical and emotional isolation risk. Here, participants reflected on experiences from covid lockdowns, alongside potential physical isolation should the roading network be impacted by a weather event:

> *…if our roads got wiped out, you know…There was a slip. Luckily it went over the road, but it came down through a creek and all the slash…if it had taken that road out, we would've been buggered…it would be a nine-hour trip back to Ōpōtiki (instead of 45 minutes).*


What factors challenge our resilience?
Poverty
Climate
rain
rain
rain
Power
Cut.
Pests
Sun
Draught
land slide
landslides
Council
Regulations
Wind
Earth
Isolation
Sea Spray
immobility
Water
management
Rules
Regulations

The factors here are a stark reminder of the need to consider non-physical or immaterial factors in discussions around climate-resilience, alongside the more 'obvious' physical weather-related factors. Much of the literature on climate resiliency tends to focus on impacts through a biophysical lens, but these cannot be considered in isolation from other factors such as the regulatory framework (and how enabling or constraining that might be) and people's ability to finance particular climate-resilient strategies.

One participant highlighted the need for climate-resilient thinking, and that it may require some radical shifts in how we do things to be more sustainable and resilient into the future:

> *I'm very concerned that…one day a big storm will hit us and we will go, why didn't we [do something]? We're still stuck in a way of living that we've been used to, and we think that that's going to be sustainable. I think that's a big thing for me…for me, the biggest thing is climate change and resilience.*

The remaining activities in the day sought to start some of these conversations, with alternative ways we might think about the buildings and collections of buildings in a more resilient way.

2. A dream whare can incorporate physical ways of supporting resilience

Participants' dream whare sketches and discussions included various physical and technical design aspects for incorporating physical resilience. This included discussions about having multiple electricity sources:

> *I wanted to have multiple power supply sources…gas, electricity, water wheel…*

Similarly, others spoke of their desire to go 'off-the-grid' and be self-sufficient so as not to be reliant on broader infrastructure networks that could be damaged in weather events:

> *If the power goes out, it's like…we've got one line into here…And if that got wiped out, you wouldn't have power until you got another line put in, which could take weeks…so we're not self-sufficient out here, you know, to actually manage…*
>
> *Climate change. That's the reality for us and our future. If we go back to natural (i.e. off-grid)…that's what I'm about.*

Some participants focused the design of their dream whare to be sympathetic to the strong winds in the region, by recessing the building into the land:

> *How do we approach building within the land? Like our old kāinga? Because you actually lower your home, it's not sitting above the land, it's actually within the land and becomes quite protected from things like wind…the wind is sort of…just coming over the land, it's not catching on the house.*

While wind was a common climate condition that many participants were aware of, and concerned about, others also spoke of the need for their design to consider increasingly hot weather as well, and providing shelter from the sun:

> *[over the courtyard] are louvres so you can block out the sun when you want to, or you can open it up when you want the sun.*

A second participant drew inspiration from design features from other countries who already experience hotter conditions:

> *You look at how you can build in a climate that is becoming harsher…I've forgotten what country it is, but one example, that instead of having open windows with lines to keep the sun out, they do the windows and then about*

two metres in front of them, they have these big screens, slatted screens…and so that's something you can do to cut the sun out, cut the full-on effect out. You can still see through it, but it creates shade in the house.

This was a timely reminder that we do not need to reinvent the wheel. There are local, national and international lessons and examples we can draw from to inform our approaches.

3. A dream whare can also consider non-physical factors for resilient homes

As well as physical and climate-related design considerations, participants expressed a variety of ways in which 'immaterial' aspects influenced their designs. For instance, despite the prompt to design their 'dream whare', many participants reflected on the desire to maintain an element of comfort and that the house did not need to be excessive:

> *I think space is really important…I don't want anything humungous. I don't want a grand design, but I want something that will accommodate more people comfortably or be ok if it's just my partner and I, you know. So either way, we're comfortable.*

Similarly, simplicity was a key theme in some designs:

> *I've always liked the concept of a bed-sit. So it's one room. And you can do something with your bed, you can fold it away or it can just stay there…and then you have your little kitchenette. It's nothing over the top…I think it would suit me…so that's it. Nice and simple.*

For others, they were already in their dream whare:

> *I've already got my dream house. I was brought up in a two-bedroom shack…with seven kids and two adults. So, anything was going to be better.*

Views played a key part for one participant already in her dream whare, who spoke of the importance of sightlines to Whakaari in how their home was sited:

> *It was designed so that we could see Whakaari…our consideration really was the view. To look at Whakaari when we wake up.*

For others, the dream included spaces that were flexible and could be used for different purposes at different times:

> *We've got a garage that's a whare, you know, the moko's sleep in there. There's also a toilet and shower in that area so it's quite separate. They can be loud and noisy! And they've got a kitchen out there…well, a basin and stuff. So we have a kind of…a marae setup out there for the moko's. There's a play area, a basketball area…*

One participant considered staging the construction of her dream whare over time so that it was more feasible and each stage could be done in time as finances allowed:

> *It's a horseshoe shape, facing north, with a central courtyard. And the plan would be to do stage 1 [the living and bedroom modules], stage 2 [adding a greenhouse and multipurpose room], stage 3 [adding a second greenhouse, carport and additional bathroom], and then stage 4 [covering the courtyard linking all four stages].*

Similarly, that staged approached raised some interesting considerations for how you maintain the memories associated with your old whare, as you design and build your dream whare into the future. How do you incorporate the whakapapa of your old home into that?

I know we're talking climate resilience, but it's almost like…the resilience of the whare so it's there into the future.

Amongst these discussions, though, the concept of a 'dream home' can be difficult or confronting to think about in the face of people's financial situations and just trying to get by:

I found it hard to think about a dream home because I don't have the finances to kind of, think green…to extend beyond what I have and can alter. So it's a bit limiting…

As researchers, this was a critical reflection in how we frame the questions that we ask people and ensuring those questions remain mana-enhancing for participants. For instance, in this case, perhaps we would have been better to frame the activity as a dream whare within your means.

4. Perspectives about sharing vary and often require trade-offs

Our conversations about resilience purposefully included a session centred around sharing. Designing for a more climate-resilient future demands that we think differently about the ways we use resources and move around. For instance, taking a collective rather than individual focus when we think about the ways we travel could help to reduce carbon emissions (by reducing individual trips), and potentially be cheaper (improving our financial resilience).

Our discussions on sharing centred on four factors: bathroom facilities, kitchens/cooking facilities, laundry facilities, and transport facilities. Interestingly, on all factors, there was no clear consensus amongst the group. All four factors resulted in people at either end of the spectrum line (and in between), in terms of what they would be willing to share with others and what they would not.

Some participants were very open to the notion of sharing facilities like bathrooms:

Why are we so precious about it?

For others, it was a clear 'no':

I don't like sharing my kitchen…it's my kitchen. No one comes in until I'm finished cooking.

Others were less open to the idea, but recognised that they already do share facilities in some aspects of their lives:

I'm not very good at sharing a toilet but I would…we share them at the marae.

In general, though, participants' perspectives on sharing were less binary than a yes/no response. Sometimes it was dependent on the level of sharing that would be involved. For instance, some people were less enthusiastic about a fully shared or communal bathroom (e.g. with multiple toilet 'stalls' within the one larger space), but were open to alternatives:

If it was a case of…I don't know, four bathrooms for six units, I'd be ok with that. And in each bathroom, you had your shower and your toilet, I'd be ok with that because I can go privately.

Others were perhaps willing to share if they could navigate issues of cleanliness and different people's expectations of the standard that facilities would be left in:

I don't mind shared facilities, but I'd like to know there's some sort of arrangement for who cleans and when…either everybody cleans up after themselves, or there's a roster…

Some mentioned the possibility of having both private and shared facilities. For example, perhaps there could be ways of having your everyday facilities in your own individual whare, with access to some shared facilities within a kāinga you might use on a less frequent basis:

> *If you wanted to cook a big hakari, you could cook it in the big communal area and share it.*

One participant already had such a set up with their current home. Their whānau live in three houses next door to one another and they do a range of things separately and together (such as cooking and laundry). This sparked discussions around the differences based on who you are sharing with. The location people placed themselves on the sharing line varied depending on if they were sharing with siblings/whānau versus if they were sharing with 'strangers':

> *I would share with my family…it depends ay.*

There were a range of perspectives when it came to sharing in a transport and mobility context. For instance, one participant was strongly supportive of the need to think differently about how we travel and use cars:

> *Why do we all need individual cars, when we all end up going to the same place, like the supermarket? I'm a firm believer in [the idea] that you should share your cars, but people just don't like doing it. You know, you've got individual cars, you've got individual driveways, individual roading costs, all of that stuff which becomes an accumulation of costs. And if we're wanting to be clever, that's what you start eliminating, what we really don't need.*

The pakeke bus was an example of an existing car-sharing practice, which does trips to Ōpōtiki for people to carpool, though participants acknowledged that this related to scheduled trips at specific or set times:

> *Like our pakeke bus, I just love jumping on it. You get chauffeured to Ōpōtiki and back! I can sit and knit a hat on the trip. It's so good.*

Conversely, for some, driving had a cathartic aspect to it and was quite a personal experience:

> *When I'm travelling [i.e. driving], that's my home away from home. I like to take all my stuff and the kitchen sink. And I don't like to share with others 'cos they want to stop here and there and I want to stop here and there.*

This highlighted the difference between sharing a trip (i.e. where others are also in the car) and sharing a vehicle, that you could still use by yourself. When you could still enjoy the independence and spontaneity that comes from having your own vehicle, perhaps the potential exists for sharing vehicles from a larger pool of cars:

> *If there was some sort of…fleet car. Like, if the community had four cars and you could book that car for a day or a week and go on your haerenga, that would change it for me…but it would have to be well-run. They would have to be well-maintained and cleaned. You don't want to be taking a fleet car that's paru, someone hasn't cleaned it up…*

A similar theme emerged in terms of fleet cars to when we discussed sharing a kitchen or bathroom facilities, and the need for some sort of management process or procedure to ensure that the vehicles being shared would be maintained and kept to a set standard for everyone using them.

Ultimately, though, this exercise and following conversations about sharing sparked some interesting thoughts for participants about things we could be doing differently in a kāinga:

The line thing was really interesting for me, and I started thinking – what else could we share? Just that notion of…what else could you share in a community. So I thought that was really interesting. And just the challenges of how I'd want to live, and could I live communally?

5. A challenge lies in simply starting conversations about climate-resilience

One of the most salient themes to emerge from the day was the challenge of simply starting conversations among whānau about climate resilience within a housing context. As a research team, at times it did not feel as though we were quite reaching the point that we thought we wanted to, particularly in terms of the depth of kōrero about climate-resilient houses. Part of this, though, was recognising just how big these topics are: housing and climate change. In the context of these dual challenges, the ways in which we engage in conversation with whānau about these topics is complex. This raised questions for our research team:

- How do we bring such pressing and complex topics together? And how do we bring them together in ways that don't make people feel bad if they are at different stages (or have different capabilities of response) than other people in the conversation?
- How do you navigate the unique and site-specific climatic challenges that face different whānau on different whenua?
- And how do you balance thinking about (potentially) longer-term challenges of climate change, in the face of immediate housing need?

Some participants reflected on the positive experience of taking part in this research, as a starting point for some of these questions:

[Question: What was something you've taken away from our wānanga today?] For me, it was that rich cross-pollination of ideas, you know. That other people who were doing things that I hadn't thought of.

For some, they had been thinking about different concepts but the wānanga encouraged them to solidify those ideas into concrete sketches:

For me, I've had these ideas for a long time. This is the first time I've put them down on paper. That's been good for me to think about.

In a similar vein, many participants drew from examples of past practices. There could be solutions that reside in the ways that people used to do things, to live and be more resilient. This included whare being partially embedded in the whenua, alongside other practices such as gathering and storing kai in different ways:

…our idea was to have courses teaching people how to eat…weeds. All the different weeds that are kai.

Alongside past practices, this raises the question of what adaptations are needed and what new technologies are available to support different resilient-building practices. Ultimately, though, the dual challenges of housing and climate change can be difficult to coalesce. There is a tension between pursuing climate-resilient solutions in the face of financial challenges and the need to simply have a roof over one's head:

The biggest barriers are the funding, the money. Bespoke, climate-resilient homes are probably going to cost more than others, you might not be able to get insurance for them, it's that sort of stuff…you know, that [tiny home company]? I'm going that way because it's cheap and because it's easy.

This raises the question of how you enter in conversations about climate-resilience, without losing hope and without being overwhelmed, such that we are creating homes that can last long into the

future. At the same time, others recognised how much of a journey they had come on and still had to go on, to think differently about kāinga:

> *It really makes me realise how colonised my head is, because I've taken a lot to kind of, let go of certain things that you take for granted that you get with your kāinga. It's still a journey.*

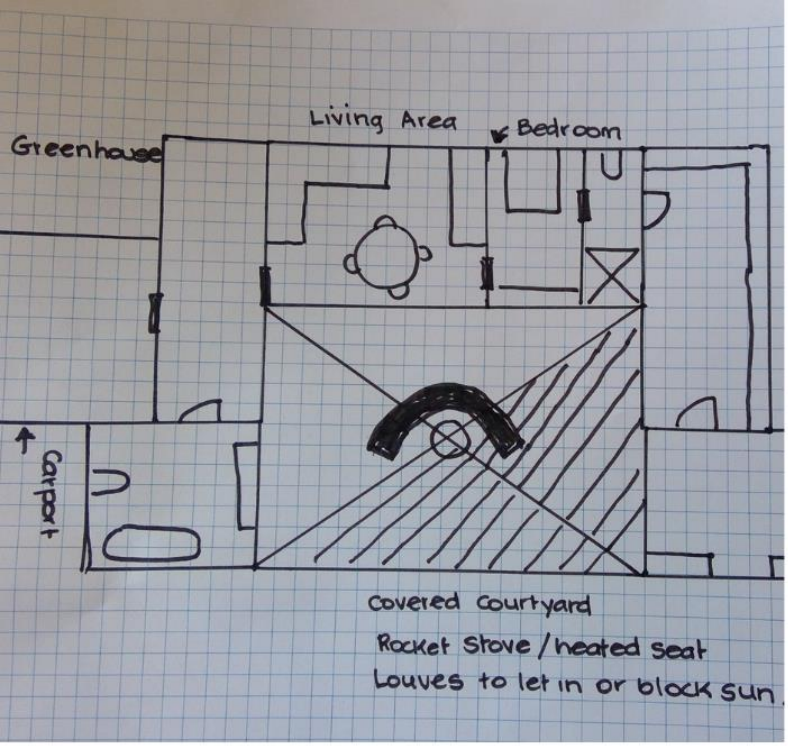
Understanding where individuals and whānau stand, and adapting the pace of discussions to accommodate different priorities and financial positions is important to ensure people are scaffolded into discussions about climate resilient kāinga in ways that are appropriate for them.

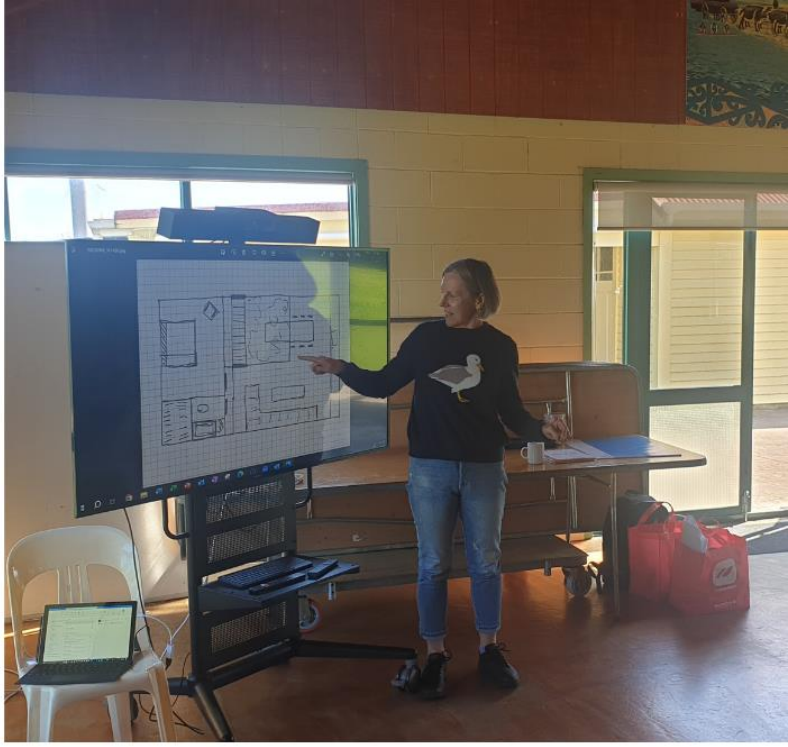
Summary

Building on the first wānanga, this second session continued to raise a number of salient points for designing whare within a kāinga, with a climate-resilience focus. Discussions highlighted the combination of both physical (i.e. climatic) and non-physical factors that could challenge resiliency. Climate-resilient housing solutions need to consider both.

As part of this was a clear recognition that we need to think differently about how we live, if we are to build resilient whare and kāinga into the future. This could include physical housing design features and adaptations to work better with the elements (such as moveable structures to provide shelter from the sun, or sloped rooflines to be sympathetic to prevailing winds), as well as non-physical components like what facilities we might be willing to share to reduce our footprint (and the associated behaviours that need to be thought through with sharing practices).

Ultimately, though, the session also reinforced the dual challenges of housing and climate-change and the question of how we enter into conversations with people about climate-resilient housing when people are just trying to get by. There needs to be a tool or mechanism that can be used to support whānau to enter into those conversations, at their own pace and respecting where they are on their housing journeys, in ways that don't leave them feeling helpless.


Greenhouse
Living Area
Bedroom
Carport
Covered Courtyard
Rocket Stove / heated seat
Louves to let in or block sun




TE KAHA
BAY OF PLENTY

5

CONCLUSION

Conclusion

This project sought to explore ways of designing climate-resilient kāinga, thickening the threads between whānau, whenua and te taiao. Climate change and its impacts have the potential to change Māori place-based relationships and compound health, social, cultural and economic inequities.[22] Walking alongside Te Kinakina as a case study block, we began with an investigation into some of the key climatic considerations for designing a kāinga. Then, drawing from collaborative wānanga with whānau at Pahaoa Marae over three days throughout 2023, we sought to better understand the interrelationships between buildings, building materials, and people, in the pursuit of becoming well-housed on your own whenua.

This report summarises the range of activities and discussion points that emerged from throughout this process. When we started with a broader focus and looked at the role of the kāinga, we found:

1. The foundation of a development is the whenua;
2. Kāinga development means having a collective focus;
3. Designing a kāinga includes designing how we live together;
4. Masterplanning (whānau planning) is essential; and
5. Whānau generally maintained a sense of optimism.

When we shifted the focus to the whare within the kāinga, and how they inter-relate, we found:

1. Our resilience can be challenged by physical and non-physical factors;
2. A dream whare can incorporate physical ways of supporting resilience;
3. A dream whare can also consider non-physical factors for resilient homes;
4. Perspectives about sharing vary and often require trade-offs; and
5. A challenge lies in simply starting conversations about climate-resilience.

These findings set the scene for the next steps for our project moving forward from here, but is important to note that they are specific to this area.

Limitations

This project is a taster, offering our insights from a brief exploration with whānau in one area of the Eastern Bay of Plenty. We purposefully chose to limit our focus to whānau with Pahaoa Marae as our hub, to build on existing relationships within the research team and the local community so our research was beginning from a place of trust.

Importantly, we cannot assume a homogenous 'Māori'. Our findings presented in this report are specific to this place and this time. Climate-change adaptation research strategies need to recognise and provide for a diversity of experiences, as well as a diversity of social, cultural, and organisational structures.[23]

Nevertheless, there may be experiences that we have presented here which resonate with other whānau and other communities across the motu. It is our hope that by sharing these initial insights that it may stimulate conversations amongst others grappling with (or wondering how to start conversations about grappling with) housing and climate change.

[22] 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, https://doi.org/10.1080/13549839.2021.1901266

[23] Johnson DE, Fisher K, & Parsons M. (2022). Diversifying Indigenous Vulnerability and Adaptation: An Intersectional Reading of Māori Women's Experiences of Health, Wellbeing, and Climate Change. *Sustainability, 14*(9):5452. https://doi.org/10.3390/su14095452

Next steps

As outlined in the 'whare' section above, one of the most important themes to emerge from this research related to the complex nature of starting conversations about climate-resilience in a housing context, particularly where whānau are just trying to get by. This set the scene for the immediate next step of this project, which is the development of a workbook for whānau looking to kickstart conversations about climate-resilient kāinga.

Recognising the wealth of knowledge across Māori housing and papakāinga literature, the workbook aims to bring a specific lens on climate-resilience that can be used to complement existing Māori housing guides and toolkits. The workbook takes a tripartite structure, looking at whenua, whānau, and whare. This structure reflects similar structures provided in papakāinga toolkits, highlighted the intended interconnected nature of the workbook with those resources.

Importantly, the workbook is designed to be live and agile. It is incomplete, with blank pages and prompts. Drawing from some of the material canvassed in our wānanga, we have started the workbook with some initial topics, but the overall aim is that whānau can pick up and develop the workbook in ways that suit their specific context and their development priorities. Templates for additional topics are provided, for whānau to add as and when they see fit. Our aspiration is that groups could adopt the workbook and, working collectively, arrange information-sharing sessions where experts on particular topics contribute focused sessions that are relevant for that collective, as they build up their own workbooks.

The workbook, as a conversation starter, is as much about the process as it is about the outcome, and supporting whānau to engage in the cathartic potential of exploring what a climate-resilient kāinga could look like for them. Depending on where people are up to on their housing journey, they can start wherever they like. This might be at the 'simpler' end of the scale, by looking at aspects related to the whenua and identifying sites for building, or it might take them to more complex issues of establishing the tikanga of living in close proximity with one another.

Further and future research

The potential for further and future research exists, along a number of different avenues:

- Testing, refining, and validating the potential of the proposed workbook as a tool for kickstarting conversations about climate-resilience in a Māori housing context could be useful, both with whānau already involved in the research to date but also with tangata whenua in other areas to test the replicability of aspects of the workbook.
- Exploring other ways of developing an 'information bureau', or a distributed network of connections within the community at a grassroots level. Research on how to build that network of interconnections of people willing to help one another could be valuable.
- Testing and resourcing the potential for a 'planning clinic' at the marae, where local Council staff (such as consent planners) spend a day at the marae where whānau with questions about planning processes can come and ask questions, outside of the walls of the Council and in an obligation-free environment.
- The development or refinement of existing kāinga design guides could support whānau looking for technical support on aspects of their kāinga design.

Final comments

While this project has been just the first step on a journey for exploring climate-resilient kāinga, it has been a valuable one. The whānau we spoke to were enthusiastic and open to the potential of new and innovative housing futures, in the face of increasing impacts from climate change. But we have to start somewhere. As one of our team contemplated:

What does a Māori architecture look like? How does it change when you…what do you mean when…to welcome people into your whare? It's kind of…unleashing everything. How do you want to live? And then how do you want to live as whānau? How do you want to live as whānau on your whenua? And what's your masterplan gonna look like? How is the masterplan a tool to having a discussion with your whānau about how you're going to live together…

…it's a conversation though. It's about starting a kōrero.

6

AUTHOR NOTES

Author notes

Our kaupapa Māori (by Māori, for Māori) research team brings together a diverse set of skills and expertise. While our backgrounds vary, we share a common goal: the pursuit of mauri ora for people and the environment. Utilising a tuakana/teina philosophy and practice (where the roles of tuakana and teina are continually changing), our team can draw from our collective expertise to deliver research-based, community-led outcomes. From left to right:

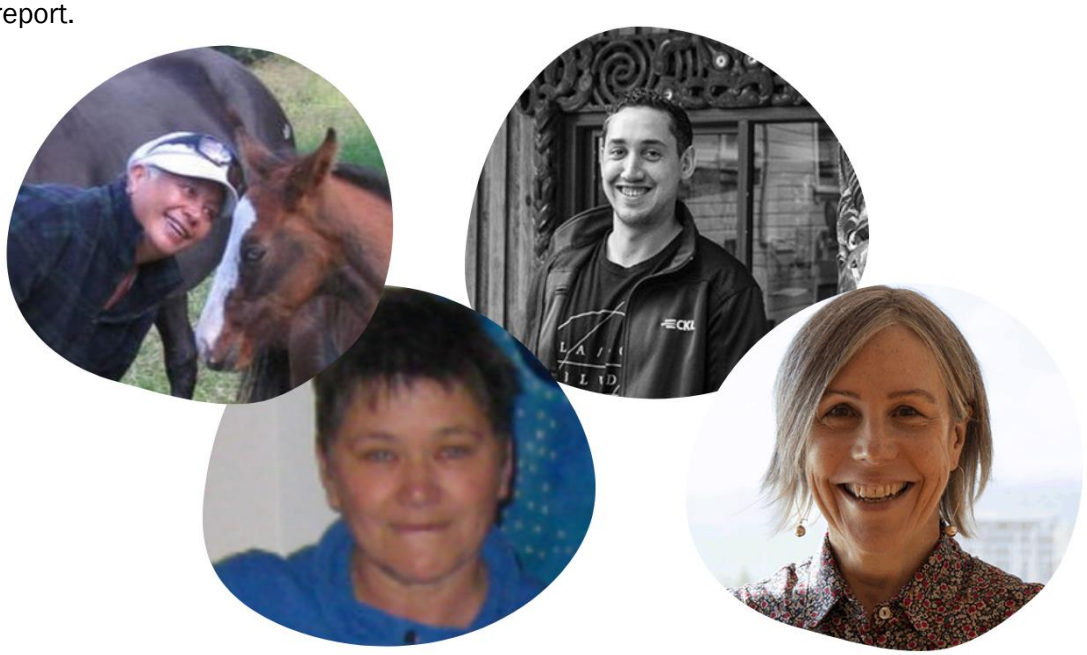
Kathleen Morrison (Te Whānau-ā-Apanui, Ngāti Porou, Ireland) is a conservationist who, alongside Violet, has designed and planned Te Kinakina Wetlands Restoration Project. She comes from an artistic background with a Master of Fine Arts (MFA) in photography and years of experience as a graphic designer. Having spent the last 10 years living on Te Kinakina, she is now dedicating her time to research and project manage Te Kinakina wetlands restoration project including: the initial design and function of the wetland areas, funding applications, planting schedules, sourcing trees and plants, liaising with community groups, and managing contractors.

Violet Aydon-Pou (Ngāpuhi, Ngāti Porou, English, Scottish) has been working in the education sector for more than 30 years - 20 of those years have been in the Ministry of Education's RTLB (Resource Teacher of Learning & Behaviour) Service. Her career is punctuated with study leave to complete a Masters in Contemporary Education (2022); a Masters in Social Sciences (2006); and a Fulbright Scholarship (1995), which has prepared her well for a role of Kairangahau (researcher) o Te Kinakina Wetlands Restoration Project. With the support of Dr Fiona Cram, Lisa Pohatu and Halo Whakatane, Violet has recently prepared an Operational Plan for Te Kinakina, a document that now accompanies all funding applications to provide people with the 'big picture' vision for the whenua.

Dr James Berghan (Te Rarawa, Te Aupōuri) is a Pūkenga Matua (Senior Lecturer) and Kairangahau (Researcher) at the Wellington School of Architecture, Te Herenga Waka – Victoria University of Wellington. He is an early-career kaupapa Māori and Māori-centred researcher with expertise in planning, surveying and urban design. James is currently involved in research projects looking at the links between the built environment and Indigenous place-based ontologies.

Dr Fiona Cram (Ngāti Pāhauwera) is the Director of Katoa Ltd, a Māori-Indigenous research organisation that undertakes Kaupapa Māori research and evaluation. Fiona is an experienced kaupapa Māori researcher and mentor for this project.

Grateful thanks are also given to Ben Siesicki (Ngāpuhi) and Oscar McConaughy (Ngāti Maniapoto, Ngāti Rora) from Te Kura Waihanga | Wellington School of Architecture for their contributions to this report.



7

APPENDICES

Appendices

Appendix 1: HOMING method guidebook

HOMING

A METHOD FOR EXPLORING WHAT MAKES A HOUSE A HOME FOR WHĀNAU MĀORI

DATE

AUGUST 2021

VERSION 1

PREPARED BY

JAMES BERGHAN, PHD

WITH ASSISTANCE FROM

FIONA CRAM, PHD

OVERVIEW

SUMMARY

HOMING is a research method that allows people to explore what makes a house a home for them. HOMING asks people what they value in a home, without making assumptions about what is important.

The first three letters of HOMING stand for Home Of Mine, while the 'ING' represents 'home' as the verb, or an action: what people feel, think and do that makes a dwelling a home for them.

This booklet describes how to implement the HOMING method, including the materials needed and considerations for reporting on feedback.

RATIONALE

Where people live can be just a shelter - a roof over their heads - or it can be a place they call 'home'. As researchers, we're interested in knowing more about what makes a place a home for the people living there.

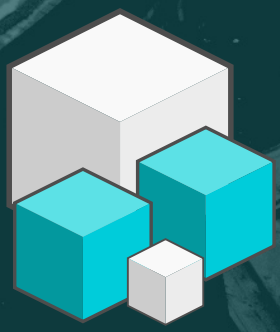
This information can then be used by those writing housing policies and strategies, and those designing and building dwellings, to think about the things that make a place a home.

GETTING READY

PARTICIPANTS

Anyone can be a participant in this method, including people as individuals or as groups (e.g. whānau). Groups can be made up of people of similar ages, or people from different generations.

If people are participating in groups, there are opportunities for them to come up with collective ideas about what makes a house a home. This can take time.



MATERIALS

You will need:

- 10 x wooden blocks (per person or group)
- Pens to write on the blocks
- 3 x painted blocks (red, yellow, green)
- Groups will also need to bring their best negotiation skills to the table!

BEGINNING

This method should have an appropriate beginning, where people are welcomed, kept safe, and are given an opportunity to introduce themselves to other participants.

The researcher should check in with the group of participants that it's okay for them to take pictures and recordings of the session.

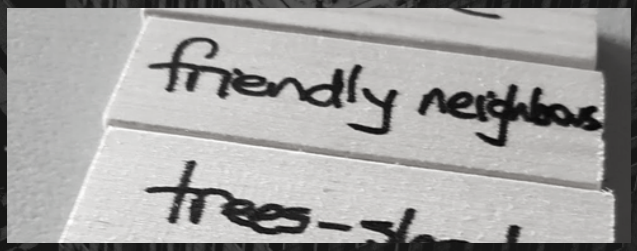
INSTRUCTIONS

1 DECIDING WHAT MAKES 'HOME'

Having a home can mean different things to different people. The first step is to decide what for you (as an individual / as a group) are **the ten most important things** that make a dwelling a home.

Each person / group is given ten blank blocks, along with 2-3 blocks that have something already written on them. These additional blocks are to show what we mean by writing on the blocks. You can use them as part of your ten blocks if you find that they belong there. If they don't, then don't use them - it's up to you.

Once you've come up with your list of ten things, write each key word or short idea on a block (1 idea or key word per block).



Groups might need around 20-30 minutes to decide and negotiate the ten most important things. Individual participants may need less time.

2 BUILDING A TOWER

Now that you've decided on your ten most important things about what makes a home, it's time to build a tower. Stack the 10 blocks in order from least important to most important.

You can build your tower of blocks in any shape you like - whether it's a pyramid, one vertical tower with all ten blocks, however you want. The main thing is to capture the order.

Individuals and groups may take around 10-20 minutes to decide on, and build their towers.

3

FEEDING BACK

Once all participants have placed their blocks in order in a tower, it's a chance to go around the room and hear back from everyone about their ten most important things, and their order of importance.

This is a chance for participants to share how they define the word or concept written on the block, if it's not obvious (especially from the limited space to write it on the block).

For groups, this is a good time to share any particular points of agreement or disagreement, and how those points were negotiated.

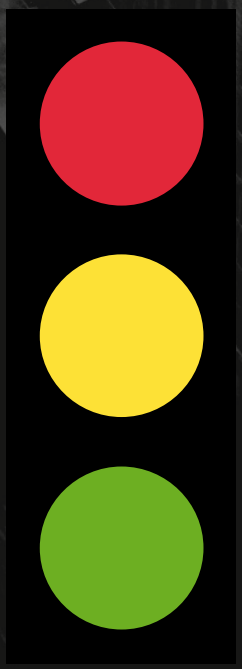
4

CURRENT HOME ASSESSMENT

The next step is for participants to rate the performance of their current dwelling, using their list of the ten most important characteristics. This rating is done by participants building another tower, using a traffic light base.

Give each participant or group three painted blocks: one red, one yellow and one green. Arrange them in a row, like a traffic light: red, yellow, green.

Participants then stack their 10 blocks on top of each colour, depending on how their current dwelling responds to the idea written on the block.

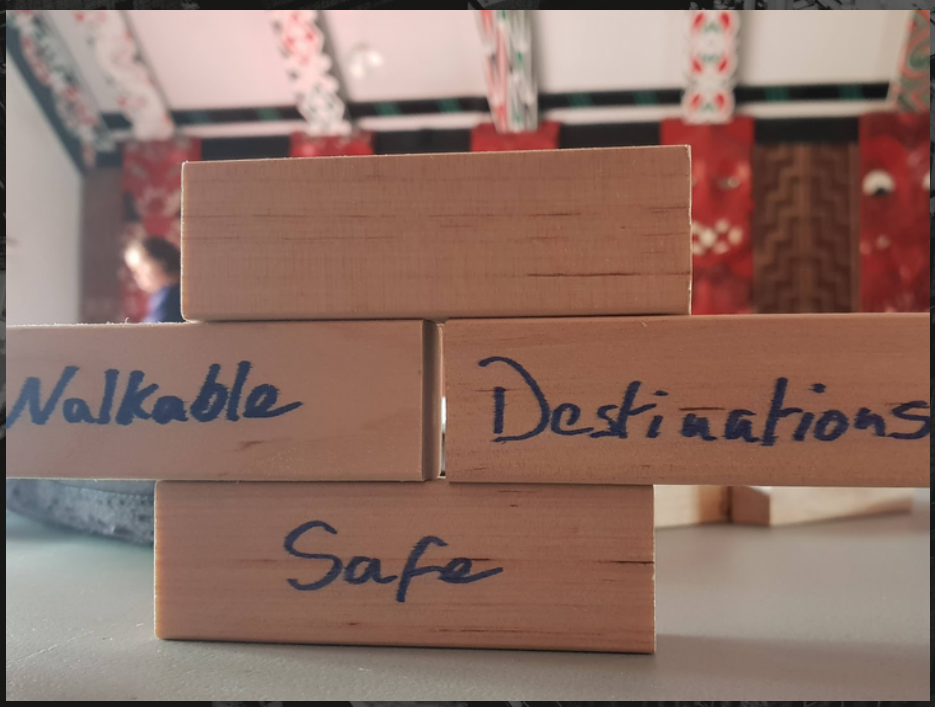


Stacking a block on the **RED** base indicates that these things are absent from their present dwelling.

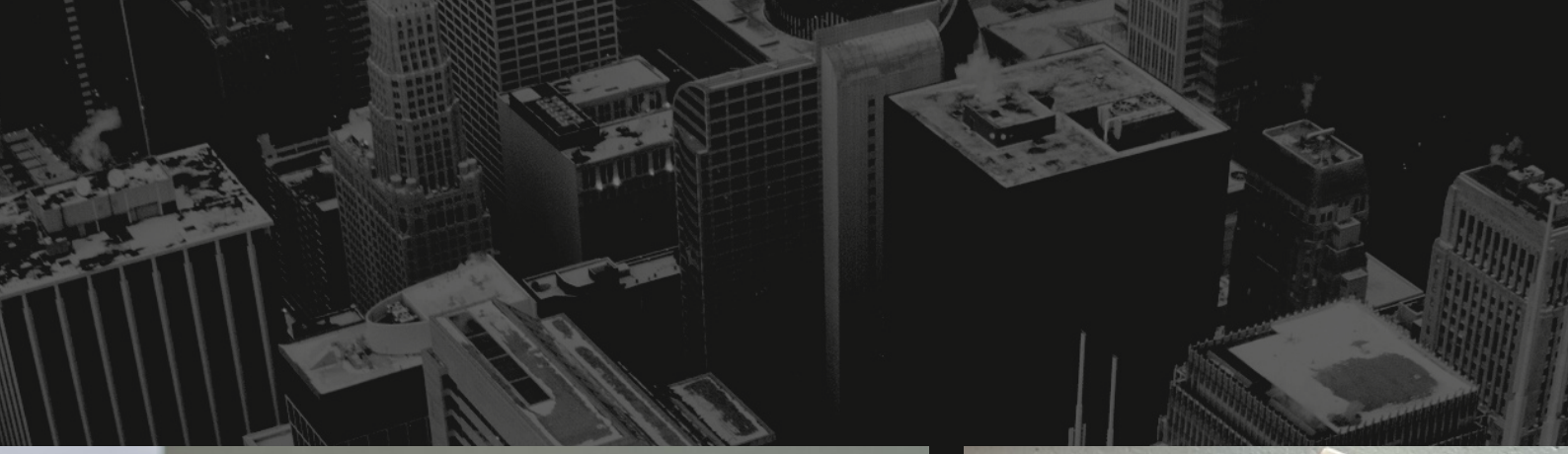
Stacking a block on the **YELLOW** base indicates that these things are partially present.

Stacking a block on the **GREEN** base indicates that these things are fully present.


SHORT STREET
(KNOWING PEOPLE)
COMMON
SPACES
PRIVACY
ACCESSIBLE
& PUBLIC TRAN
WALKABLE
(CARS AWAY)
FAMILIES
EDIBLE PLANT
(FORAGING)
FRIENDLY
OPEN
WARMTH
(HEATING)
LIGHTING
WILDLIFE
& ANIMALS
GREENERY
(PLANTS)


Walkable
Destinations
Safe


Big tall
Bumping
Community
Social




Walk and cycle friendly
Special
Nature
Happy, friendly people
Birdsong
Bumping Spaces
Diversity
Low or no fences
Gathering Places

5

FEEDING BACK

Following the current home assessment, this is another chance to go around the room and hear back from participants about some of the things that might be missing from current dwellings, as well as things that are there all the time.

6

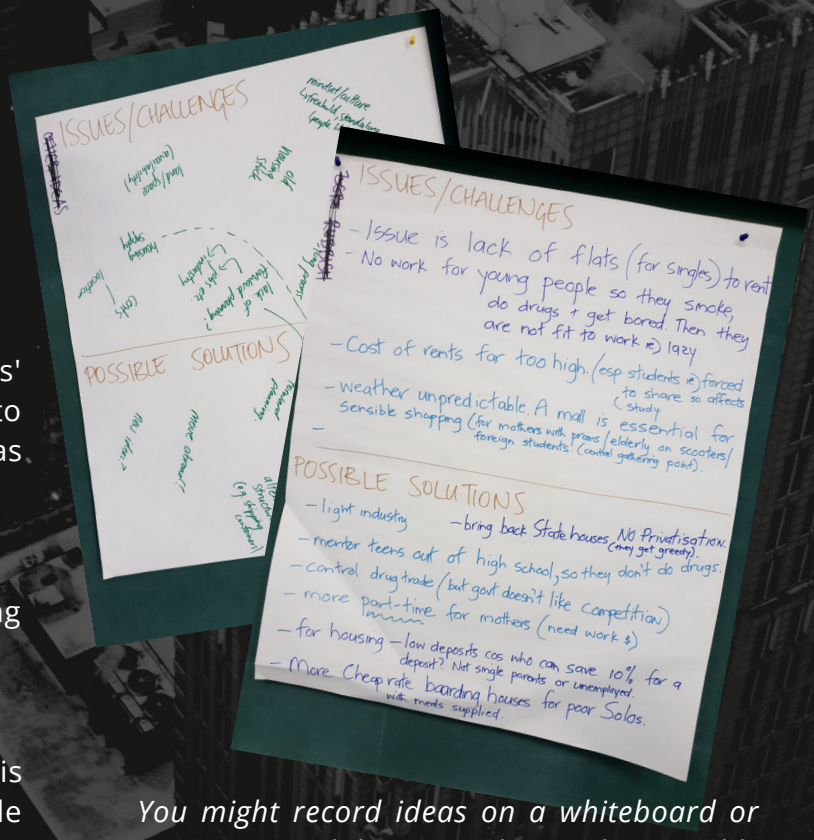
BRAINSTORM

This next step expands on participants' assessments of their current homes, to explore some of the local challenges as well as potential solutions.

For each block, ask:

- What are some challenges to achieving this word / concept?
- What could be possible solutions?

Proceed like this until time is up. This exercise is important as it leaves people feeling like there are solutions, and that it's important for people to have somewhere that's a home for them.



You might record ideas on a whiteboard or PowerPoint slide in a three-column table with headings: 'Home', 'Challenges', and 'Solutions'.

7

FINISHING UP

The final task can be a round of checking in with people about how they've found the exercises, followed by appropriate thanks and farewells.

Thank you

SOME COMMENTS

Existing housing assessment tools tend to pre-determine the indicators by which 'success' is being measured against. This first iteration of the HOMING method is grounded in principles of Kaupapa Māori research and places research participants firmly in the 'driving seat' of the project. By encouraging participants to define the assessment parameters, or the measures of success that they see as being important, we hope that this will empower participants to see that they bring valuable thoughts and ideas to contribute.

The idea of using blocks (nicknamed 'aro rākau' by a kuia participating in the process) was an attempt to bring in an element of 'play', to act as a mediator of communication between different groups of people. We're trying to engage people in different ways, to take away the reliance on numeracy or literacy that might be prominent in other research methods such as questionnaires or surveys.

LESSONS SO FAR

People are disobedient!
Originally, the plan was for participants to stack their blocks in one vertical tower from most important to least important - but people rarely created their towers like this! We have since eased back on this instruction, giving participants more flexibility and creativity to create whatever structure they like, to represent the different levels of importance to them.

It's not always quick
While some individuals and groups can work through the stacking fairly rapidly, others take a lot longer to negotiate and stack their blocks, so you need to be flexible with time. It might take all of your allocated time just to complete a few of the steps, or you may need to schedule multiple sessions to get through to the end.

Be aware of the context
Different groups of participants with different backgrounds need different levels of guidance to get started. It can be helpful to start any session with a general housing discussion to help set the scene for the block activity.

FEEDBACK

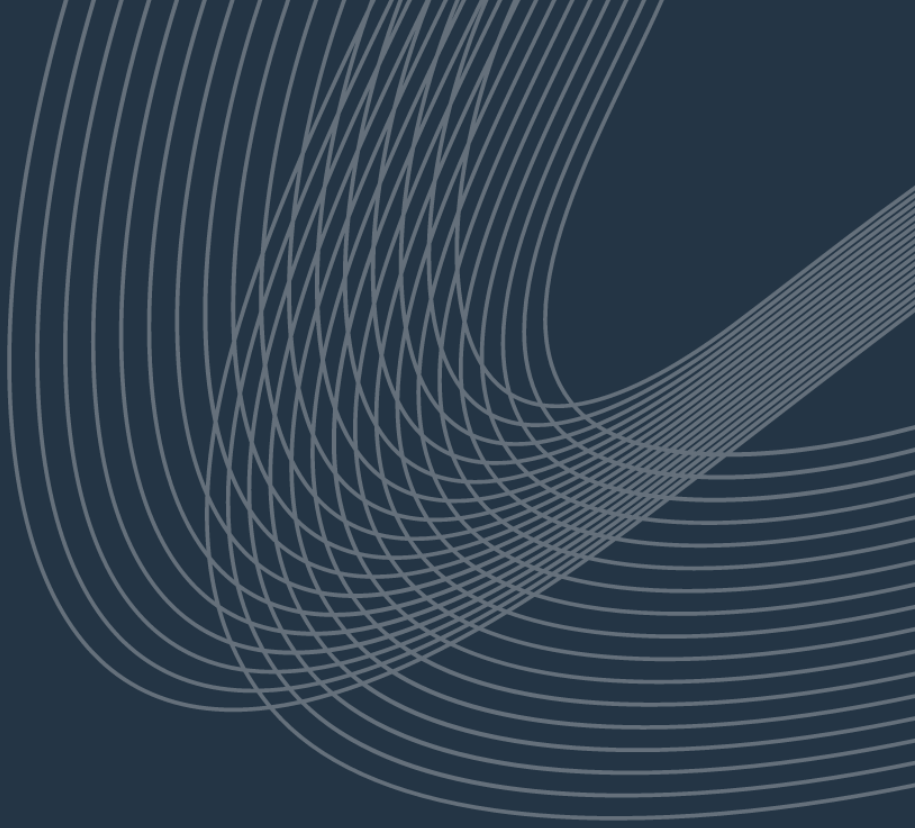
This is the first iteration of the HOMING method. Through our collective efforts as a research team, we are trialling the method in different settings, but if you try the method, we would love to hear your feedback so we can continue to improve aspects that might not be clear, or working so well (contact details on back page).

This guide has been prepared by:
James Berghan, PhD (University of Otago)
with assistance from Fiona Cram, PhD (Katoa Ltd)

Contact: james.berghan@otago.ac.nz

AFFORDABLE HOUSING FOR GENERATIONS
Building Better Homes, Towns and Cities National Science Challenge

National Science Challenges
BUILDING BETTER HOMES, TOWNS AND CITIES
Ko Ngā wā Kainga hei whakamāhorahora



KA MUA, KA MURI

Connecting tāngata to whenua through housing

RESILIENT

A workbook for starting conversations about climate-resilient kāinga

PREPARED BY

James Berghan
Kathleen Morrison
Violet Pou
Fiona Cram

FEBRUARY 2024

RESILIENT

A workbook for starting conversations about climate-resilient kāinga

BRANZ Workbook

February 2024

BRANZ Funded from the Building Research Levy

INTRODUCTION

Kia whakatōmuri te haere whakamua
I walk backwards into the future with my eyes fixed on my past

For Māori, the resilience of the building and housing system depends on its capacity to be culturally-responsive and able to deliver what Māori need and aspire to in order to be well housed and at home. This is much more than designing, consenting and building quality houses; it is about situating these homes-to-be within a landscape that is both a metaphorical and a literal cultural positioning system. This landscape has a whakapapa – multiple layers accumulated through time – of people living and belonging on the whenua, of others visiting and being hosted by mana whenua, and perhaps of others journeying across it or pausing to settle disputes there. Without this 'backwards' view of people living in relationship with the whenua, how can a system hope to successfully walk into the future to deliver a home place that enables Māori to tend to their home fires and embrace an authentic loving relationship with Papatūānuku?

This project is part of a longer-term vision to establish a vibrant pā at Māori Land Block Te Kaha No 2C2 (known as 'Te Kinakina'). Te Kinakina comprises 61 acres of Māori freehold land situated on the Eastern Bay of Plenty coastline, within the tribal rohe of Te Ehutu/Te Whānau-ā-Apanui. In 2018, the landowners of this block held a meeting on the whenua and committed six hectares of lowlands to a wetlands restoration project led by their sister, Kathleen Morrison. The wetlands restoration project began with regenerative seed planting in 2020, and enabled the kāinga to accommodate and embrace ngā tamariki o Tāne Māhuta me ngā tamariki o Tangaroa (the descendants of the deties Tāne Māhuta and Tangaroa). In committing to reinstating kāinga for the non-human descendants of our environmental atua, the time has come to explore how whānau can be housed as part of this ecosystem.

Drawing on Te Kinakina as an in-depth case study, this workbook explores how to reinstate kāinga in ways that thicken the whakapapa thread between whānau, whenua and te taiao. As action research, this project first explores the whakapapa of Te Kinakina through a site analysis, followed by a practical co-design phase which explores the relationships between buildings, building materials and people, for coastal Māori land in the context of climate change. The case study aims to act as a 'guided tour' for others to follow along and apply learnings for their own whenua, and to identify weak spots in the process of site investigation and design for Māori land.

IMAGE: Wetland stream and ponds after heaving rain, 2021.

AUTHOR NOTES

Our kaupapa Māori (by Māori, for Māori) research team brings together a diverse set of backgrounds and skills in the pursuit of mauriora for people and the environment.

Having spent the last ten years living on her ancestral whenua, **Kathleen Morrison** (Te Whānau-ā-Apanui, Ngāti Porou, Ireland) is a conservationist who dedicates her time as researcher, project manager and caretaker of the wetlands restoration on her whenua. Kathleen comes from an artistic background, with a Master of Fine Arts (MFA) in photography and years of experience as a graphic designer.

Violet Pou (Ngāpuhi, Ngāti Porou, English, Scottish) has been working in the education sector for more than 30 years. Her career is punctuated with study leave to complete two Masters degrees and a Fulbright Scholarship, preparing her well for her role as a kairangahau (researcher) on this project. Violet and Kathleen live on Te Kinakina, the case study site for this project.

Based at the Wellington School of Architecture at Te Herenga Waka - Victoria University of Wellington, **Dr James Berghan** (Te Rarawa, Te Aupōuri) teaches and researches housing and urban design. He is a kaupapa Māori researcher with previous experience as a planner and land surveyor. His research explores the interactions between housing, neighbourhood design and indigenous place-based ontologies.

Dr Fiona Cram (Ngāti Pāhauwera) is Director of Katoa Ltd, a Māori-Indigenous research organisation that undertakes Kaupapa Māori research and evaluation. Fiona is an experienced kaupapa Māori researcher and invaluable mentor on the team!

IMAGE: Wetland pond under construction at Te Kinakina.

INTRODUCING TE KINAKINA

Mai i Taumata-ō-Apanui ki Pōtaka (From Te Taumata-ō-Apanui to Pōtaka)
Ki Whanokao te maunga (Whanokao is the mountain)
Ko Mōtū te awa (Mōtū is the river)
Ko Whakaari te puia (Whakaari is the volcano)
Ko Apanui te tangata (Apanui is the ancestor)
Ko Te Whānau-ā-Apanui te iwi (Te Whānau-ā-Apanui is the tribe)
Tihei mauri ora! (The breath of life!)

The tribal territory of Te Whānau-ā-Apanui comprises 13 hapū situated along the narrow coastal strip between the Raukūmara Range and the eastern Bay of Plenty, a strip that is a high risk hazard zone. Both the Bay of Plenty region and Whakatāne District are vulnerable to natural hazards including flooding, coastal inundation and land subsidence – hazards which are only expected to become more extreme as a result of climate change, leaving those people in close proximity to the sea at risk.

Small pockets of whānau are beginning to take climate change action both at a local and individual level. One such family, living on Māori land block Te Kaha No 2C2 (also known as “Te Kinakina”) has begun to think about house design and village settlements within the context of extreme and hazardous weather conditions. Te Kinakina acts as a case study block throughout this report, bringing to life many of the more technical planning and design elements that we aim to cover.

Te Kinakina spans 22.68 hectares, jointly owned by six siblings of the Tukaki-Morrison whānau. The site encompasses a variety of terrains, including lowlands designated for wetland development as well as elevated, flatter areas currently in pasture and cultivation, punctuated by two intersecting valleys that cross the whenua. The Pakarunui Stream meanders through the northern portion of the site, through to the Te Kaha coastline and the Bay of Plenty.

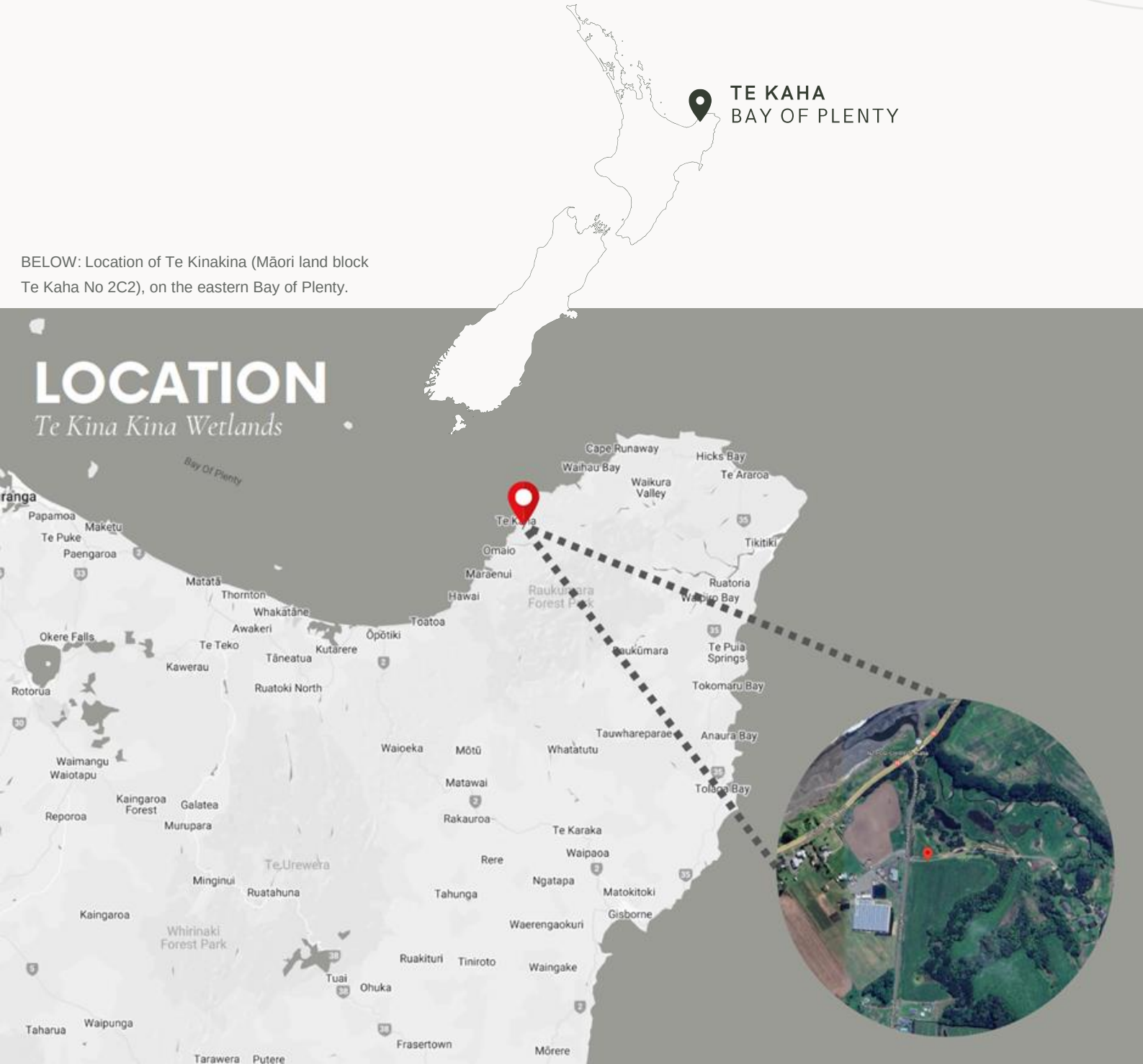
Anchoring the block is a homestead tracing back to the 1930s, complemented by additional buildings including a studio space and visitor accommodation. The whenua has a rich history, having been under a long-term farming lease before only recently being returned to the Tukaki-Morrison whānau, symbolizing a connection to the past and a commitment to its sustainable and meaningful future.

IMAGE: Pā harakeke at Te Kinakina

Te Kinakina acts as a case study throughout this report, bringing to life many of the more technical planning and design elements. While each rohe will be different, with its own whakapapa, histories, narratives, and climatic conditions, our aim is that Te Kinakina helps to bring this material alive and offer potential for ideas that may be transferable. As one of our wānanga participants aptly summarised:

"...we all come with a different whenua, we're all going to be innovative in different ways. And there will be some things that we can cross-pollinate and maybe adapt for different contexts. By that perspective, innovation is not bound by land, rather it's set free by being creative..."

We have woven lessons and examples from our exploration of Te Kinakina throughout this workbook, and it is through this sharing that we hope to continue to spark innovation in housing for hapori Māori.



BELOW: Location of Te Kinakina (Māori land block Te Kaha No 2C2), on the eastern Bay of Plenty.

TOP LEFT: Land use map, showing the majority of the block in pasture (yellow), native vegetation (green) and mixed use land (purple).

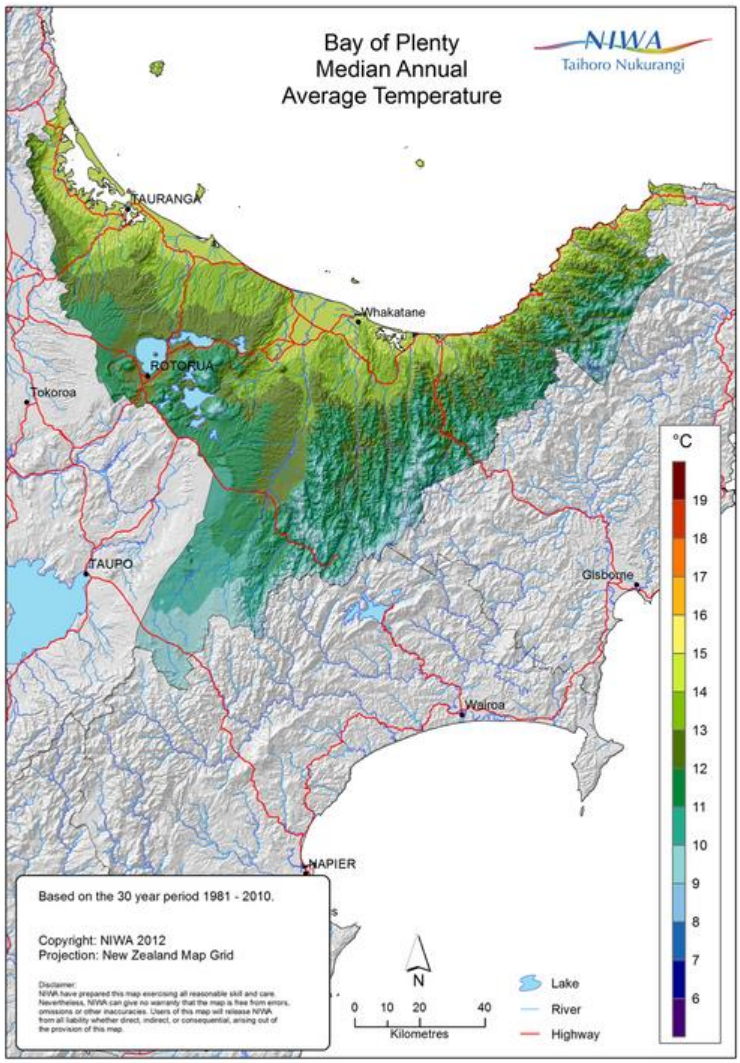
TOP RIGHT: Low-lying areas of the block are identified as zones to be evacuated in the event of a tsunami (highlighted blue).

BOTTOM: Approximate boundaries of Te Kinakina shown in white over a recent aerial image.

TE KAHA
BAY OF PLENTY


TE KAHA
BAY OF PLENTY


TE KAHA
BAY OF PLENTY


Bay of Plenty
Median Annual
Average Temperature
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
°C
19
18
17
16
15
14
13
12
11
10
9
8
7
6
Based on the 30 year period 1981 - 2010.
Copyright: NIWA 2012
Projection: New Zealand Map Grid
Disclaimer:
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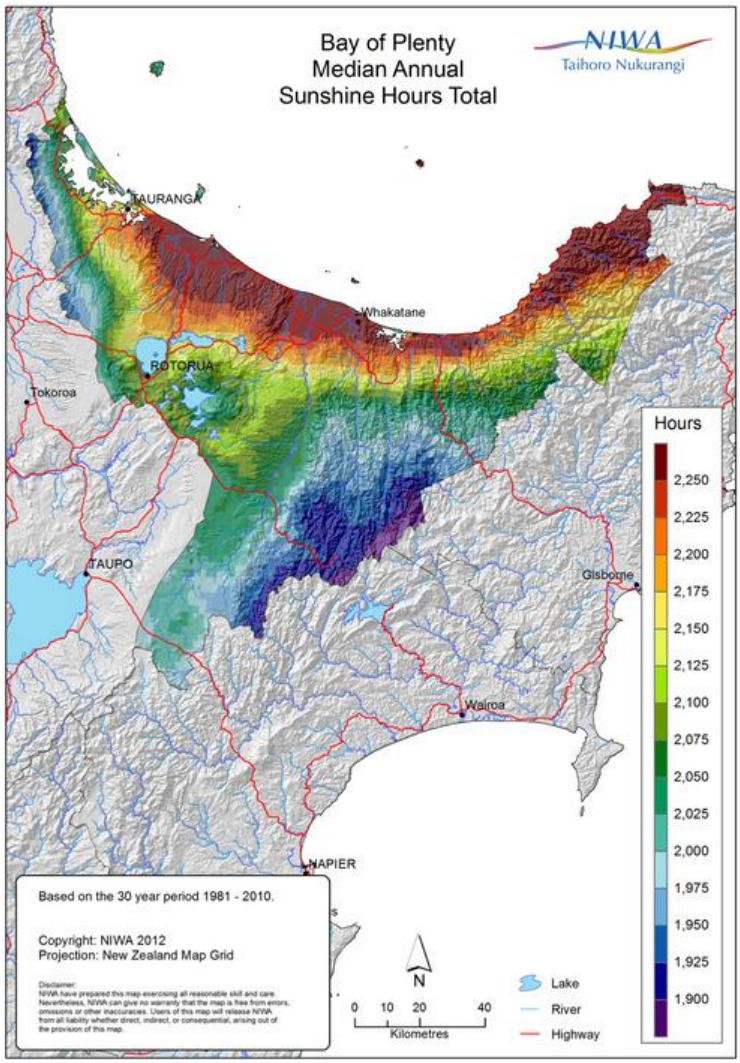
Kilometres
Lake
River
Highway


Bay of Plenty
Median Annual
Sunshine Hours Total
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
Hours
2,250
2,225
2,200
2,175
2,150
2,125
2,100
2,075
2,050
2,025
2,000
1,975
1,950
1,925
1,900
Based on the 30 year period 1981 - 2010.
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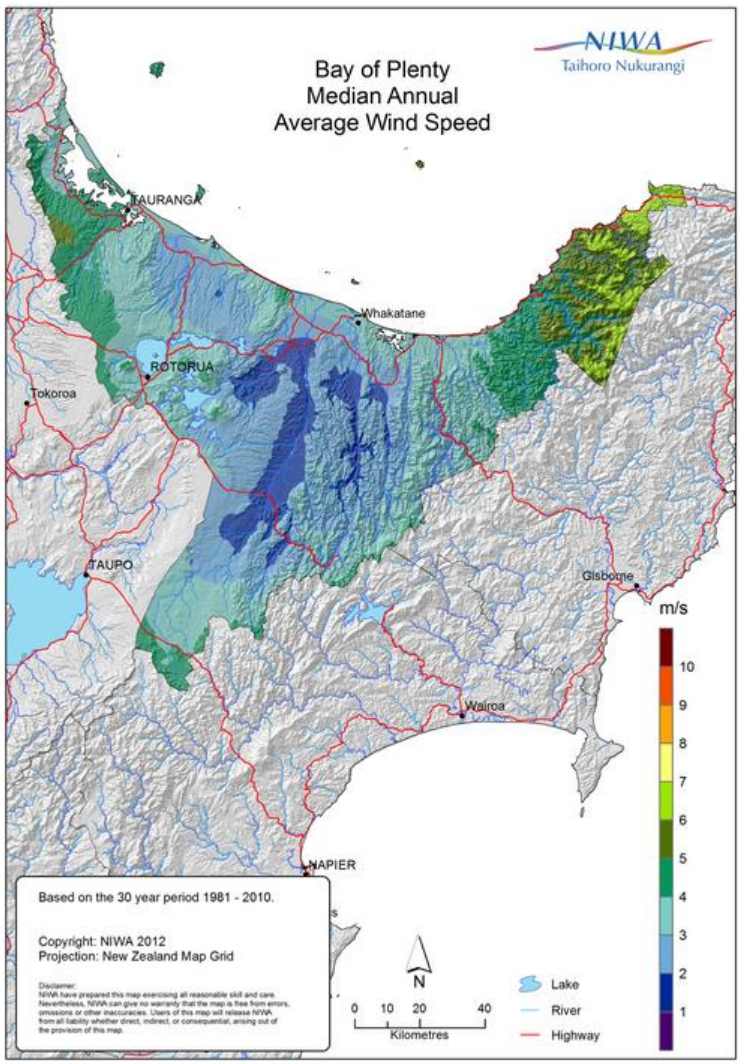
Kilometres
Lake
River
Highway


Bay of Plenty
Median Annual
Average Wind Speed
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
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5
4
3
2
1
Based on the 30 year period 1981 - 2010.
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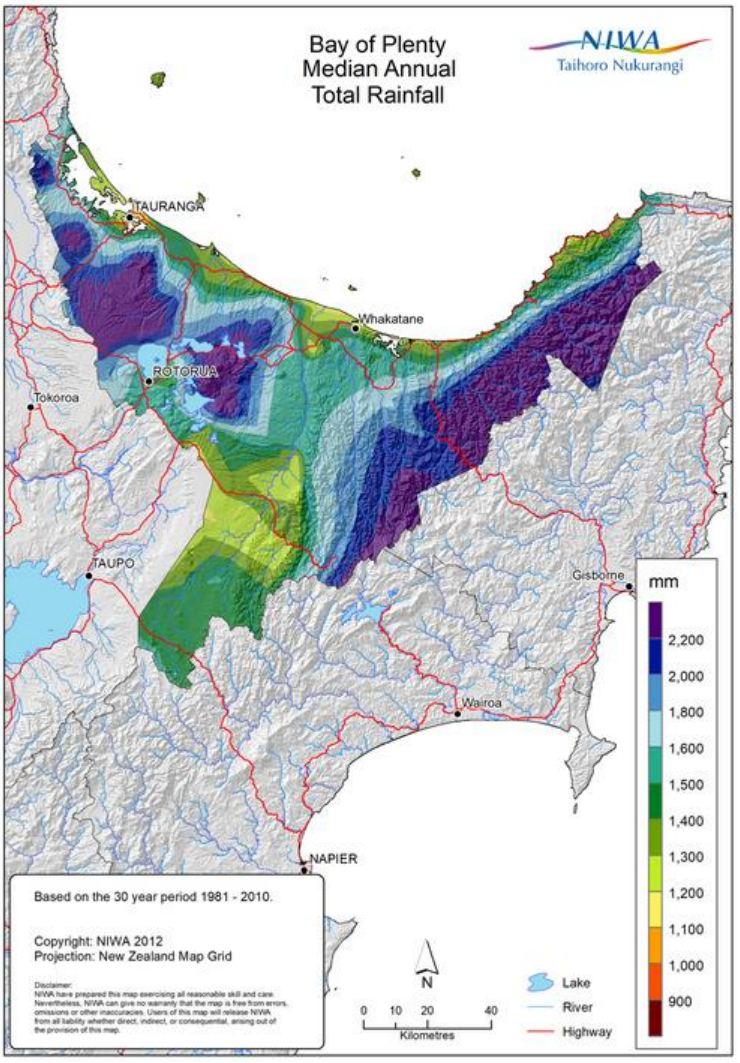
Kilometres
Lake
River
Highway


Bay of Plenty
Median Annual
Total Rainfall
NIWA
Taihoro Nukurangi
TAURANGA
Whakatane
ROTORUA
Tokoroa
TAUPO
Gisborne
Wairoa
NAPIER
mm
2,200
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1,800
1,600
1,500
1,400
1,300
1,200
1,100
1,000
900
Based on the 30 year period 1981 - 2010.
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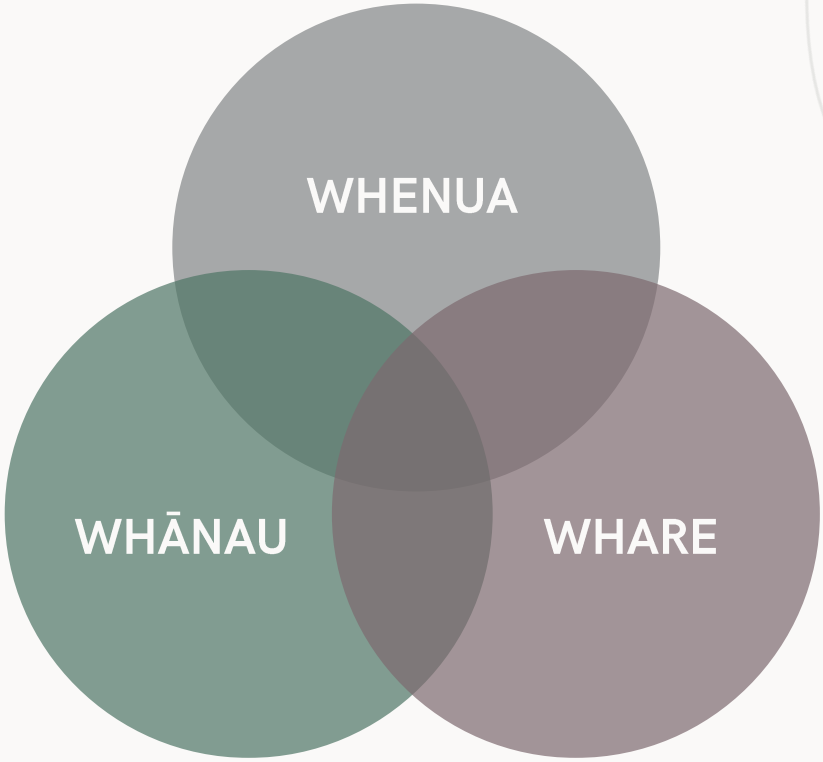
N
0 10 20 40
Kilometres
Lake
River
Highway

STRUCTURE OF THIS WORKBOOK

The body of this workbook is structured in three phases: (1) Whenua; (2) Whānau; and (3) Whare.



Section 1: Whenua starts with whenua as the foundation for any kāinga development. In this section, we look at ways you can identify land which you might have whakapapa connections or ownership interests in. We explore the notion of a 'site inventory', where you aim to gather as much information as possible about the whenua including a range of physical and cultural factors. Then, the 'site analysis' critically evaluates that information to identify the key opportunities and constraints for any future development. In this section, we use Te Kinakina as an exemplar to highlight key considerations in the site inventory and site analysis on this whenua.

With a good understanding of the whenua and the opportunities and constraints that the site possesses for development, **Section 2: Whānau** begins to explore ways of developing a multi-purpose kāinga on that land. This section begins with creating the 'masterplan', where all the potential long-term uses are ascribed to different portions of the site. In the second half of this section, the masterplan evolves beyond the physical elements to become a whānau plan, with consideration for what it means to live together, in close proximity, on the whenua.

Finally, in **Section 3: Whare** we narrow the focus to a climate-resilient building focus, including a range of ways to think about building materials, solar energy, stormwater, wastewater, and water management. We also discuss ways you can explore developing floorplans for your whare.

SUMMARY

This workbook aims to bring a specific, flaxroots lens to conversations about climate-resilience that can be used to complement existing Māori housing guides and toolkits. Importantly, this workbook is designed to be live and agile. It is incomplete, with blank pages and prompts. We have started the workbook, drawing from some of the material canvassed in our wānanga, but the overall aim is that interested whānau can pick up and develop the workbook in ways that suit their specific context and priorities.

Template pages for additional topics are provided, for you to add as and when you see fit. Our aspiration is that, working collectively, groups could arrange information-sharing sessions where they explore particular topics, and gradually build up their workbooks over time.

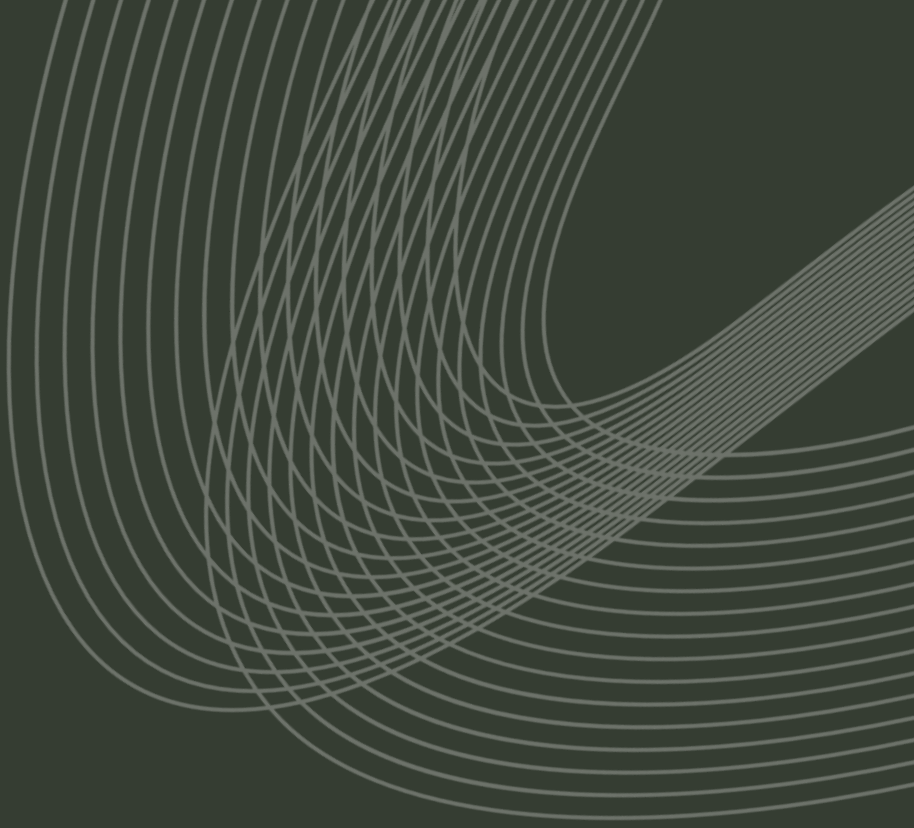
This workbook, as a conversation starter, is as much about the process as it is about the outcome, in supporting whānau to engage in the cathartic potential of exploring what a climate-resilient kāinga can look like for you. Depending on where you are in your housing journey, you can start wherever you like in this workbook.

...it's a conversation though. It's about starting a kōrero...

For more information about the workbook or this research project, feel free to contact:

Dr James Berghan
Email: james.berghan@vuw.ac.nz
Phone: +64 4 463 6112

IMAGE: Close of up pou at Te Kinakina, carved by Kathleen Morrison.



WHENUA
WHĀNAU
WHARE

LET'S LOOK AT...

topography / contours

RATIONALE

Why is this topic included in our workbook about climate resilience?

A contour (or contour line) is a line on a map that connects points of the same height or elevation above a given level, such as sea level. These lines help to show the 3D shape and elevation of the whenua, on a 2D topographic map.

Contours are a fundamental element of our site investigation, to help inform decisions around useability, sustainability, and function of different areas of a site. They can tell us a lot about an area, including the steepness of a site, sunny and shady areas, drainage, views, accessibility and more.

BACKGROUND

Background information about the topic

Contours can help us identify the most suitable places for buildings and other infrastructure. The contour lines tell us a lot about a site:

- **Steepness**: the contours on a topographic map can show us where both steep and flat areas of the site are. The closer the lines are to one another, the steeper the land. The further apart the contour lines, the flatter the land. Steeper areas can be more challenging and expensive to build on than flatter areas, or might create issues with soil erosion or landslides.
- **Aspect/solar access:** Aspect relates to the orientation of slopes - i.e. what direction does the ground face? We can use the contour lines to work out which the land slopes, and therefore, which parts of the site are facing north (and will get the most sunlight).
- **Drainage:** Understanding the flow of water is essential for designing a house or a kāinga to prevent flooding, manage stormwater, and design effective drainage systems. Contours can help us identify high and low points and where water will collect or pond. The contours can also show us the slopes that water will run down.
- **Views:** High points on the site offer opportunities for viewpoints or landmarks, while valleys might be more secluded. We can identify high and low points to help maximise or control views.
- **Accessibiliy:** Changes in elevation can impact the accessibility of an area, especially for those with mobility challenges. By understanding the contours of the site, we can create pathways, roads, and shared spaces that are more accessible to everyone.

EXAMPLES

Case studies or other examples of this topic

ABOVE: Contour map for Te Kinakina, with some of the annotations from our wānanga activity (see following page).
This contour map was sourced from the Bay of Plenty Regional Council webmaps in 2023.

ACTIVITIES

Activities and ways to explore the topic

At our hui, we printed large (A1 size) aerial photos of the contour map for Te Kinakina. Contour maps can typically be sourced from online maps from your local authority. In this case, we sourced the contour plans for Te Kinakina from the Bay of Plenty Regional Council webmaps.

In groups, participants were tasked with locating and labelling the following:

- Find the highest point on the land block.
- Find the lowest point on the land block.
- Find the steepest area/s of land.
- Find the flattest area/s of land.
- Find the height difference between two points on the site.

NOTES

LET'S LOOK AT...

aerial photos

RATIONALE

Why is this topic included in our workbook about climate resilience?

Exploring historic aerial photos serves as a valuable tool, offering a visual record of how the landscape has changed over time and the dynamic relationships between the environment, the climate, and human interventions. By comparing these images, we can identify trends related to climate change, such as shifts in vegetation patterns, alterations in water bodies, or changes in land use.

Sometimes the photos might capture past instances of natural hazards like floods or storms, and we can use those images to assess the area's vulnerability or susceptibility to future challenges, offering guidance on the location and type of interventions we propose to do on the whenua.

BACKGROUND

Background information about the topic

Historic aerial photos can highlight a number of things:

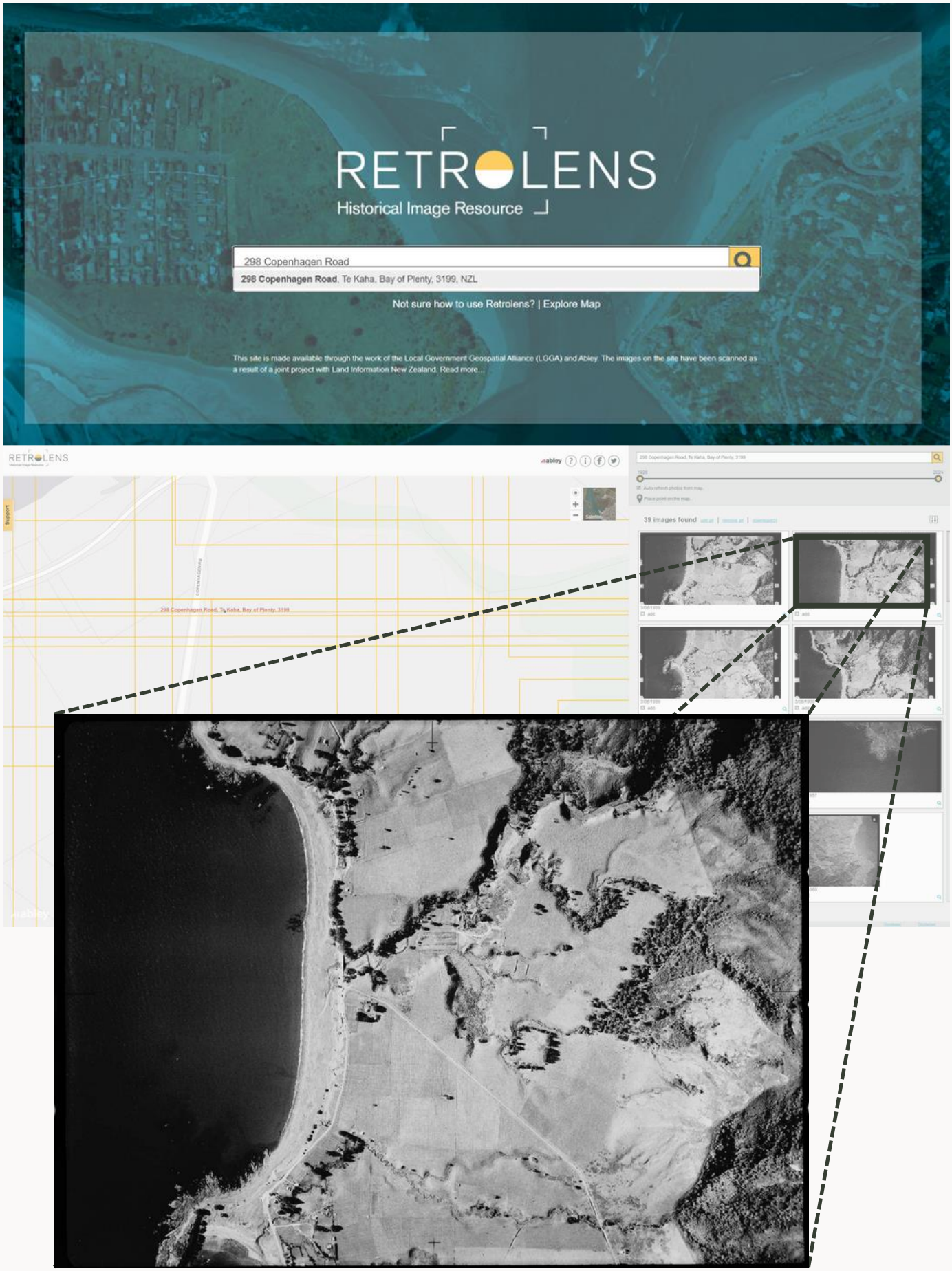
- **Land use changes:** photos offer insights into how the land has been used in the past for different activities such as agriculture or wetlands.
- **Cultural significance:** the photos might reveal cultural or historic elements such as ancestral landmarks, paths, or structures.
- **Environmental impact:** by comparing historic and current images, we can assess environmental changes that have happened on the whenua such as changes in vegetation cover, or how a water body (e.g. awa) has moved or changed over time.
- **Infrastructure development:** historic photos might show how networks like roads or other buildings have evolved.
- **Whānau engagement:** sharing historic images with whānau and the broader community can facilitate engagement by evoking memories, fostering a sense of connection and helping to incorporate local knowledge into the development process.

In the photos of Te Kinakina, can you spot the construction of the driveway on site? We can also start to see changes in the land use from pasture to wetlands over time.

ACTIVITIES

Activities and ways to explore the topic

Retrolens (www.retrolens.co.nz) is a free online resource you can use to find historic aerial photos of your whenua. Searching your address takes you to a range of images - e.g. for Te Kinakina, there are images dating back to 1939.




1939


2018


1966


2019


2002


2019


2011


2021


2012


2022

NOTES

LET'S LOOK AT...

access to / from the site

RATIONALE

Why is this topic included in our workbook about climate resilience?

In the face of climate change, how do people and services access and move around the area effectively? This topic looks at checking existing roads, pathways, and any other transport modes people can use and access in the area. Is the block landlocked? Are there any historical routes that matter? And how does it connect to bigger transport networks?

When we know what access points and routes are already available, we can make sure our design takes advantage of these to make sure our kāinga stands strong and connected, whatever the climate throws at us.

BACKGROUND

Background information about the topic

Some things to consider when researching access to and from the site include:

- **Cultural/historic routes:** investigating any historic routes or paths in and around the area might shed light on how these routes contribute to the identity of the kāinga. Can any of these ara be integrated into an access plan for the site?

- **Site accessibility and existing infrastructure assessment:** exploring the currently available options to access the kāinga helps determine our starting point:
  - Is the whenua landlocked? Or are there already-available access points?
  - What is the condition of any existing access points? Will they need upgrading?
  - What capacity of traffic do the existing accesses provide for? And for which transport modes?

- **Connectivity to broader transport networks:** beyond site access points, we can also start to look at how the site is connected with broader local and regional transport networks. The most obvious starting point is to look for roads for vehicles, but don't forget to look at other ways you might want to move around: are there walking tracks or routes nearby that you might want to link up with? Mountain bike tracks? Or rivers/streams that could be used as a transport connection?


SHUT GATE
TE KAHA
BAY OF PLENTY

NOTES

LET'S LOOK AT...

climate impacts

RATIONALE

Why is this topic included in our workbook about climate resilience?

Climate change is one of the most pressing issues facing us today and "is a threat to human well-being and planetary health" (IPCC, 2022). While climate change impacts on all New Zealanders, hapori Māori will be disproportionately affected:

"Despite Māori households having similar exposure to climate hazards as the overall population, they are projected to face greater risks due to a higher proportion of Māori households at risk related to poverty, health disparities, justice, and protection concerns." (Te Puni Kōkiri, 2023).

Much of the literature on climate change and its associated impacts tend to focus on hazards and risks through a biophysical lens. While the physical impacts of climate change are critical to consider, our ability to be resilient could also include our relationships with one another to support resilient and strong whānau and kāinga.

BACKGROUND

Background information about the topic

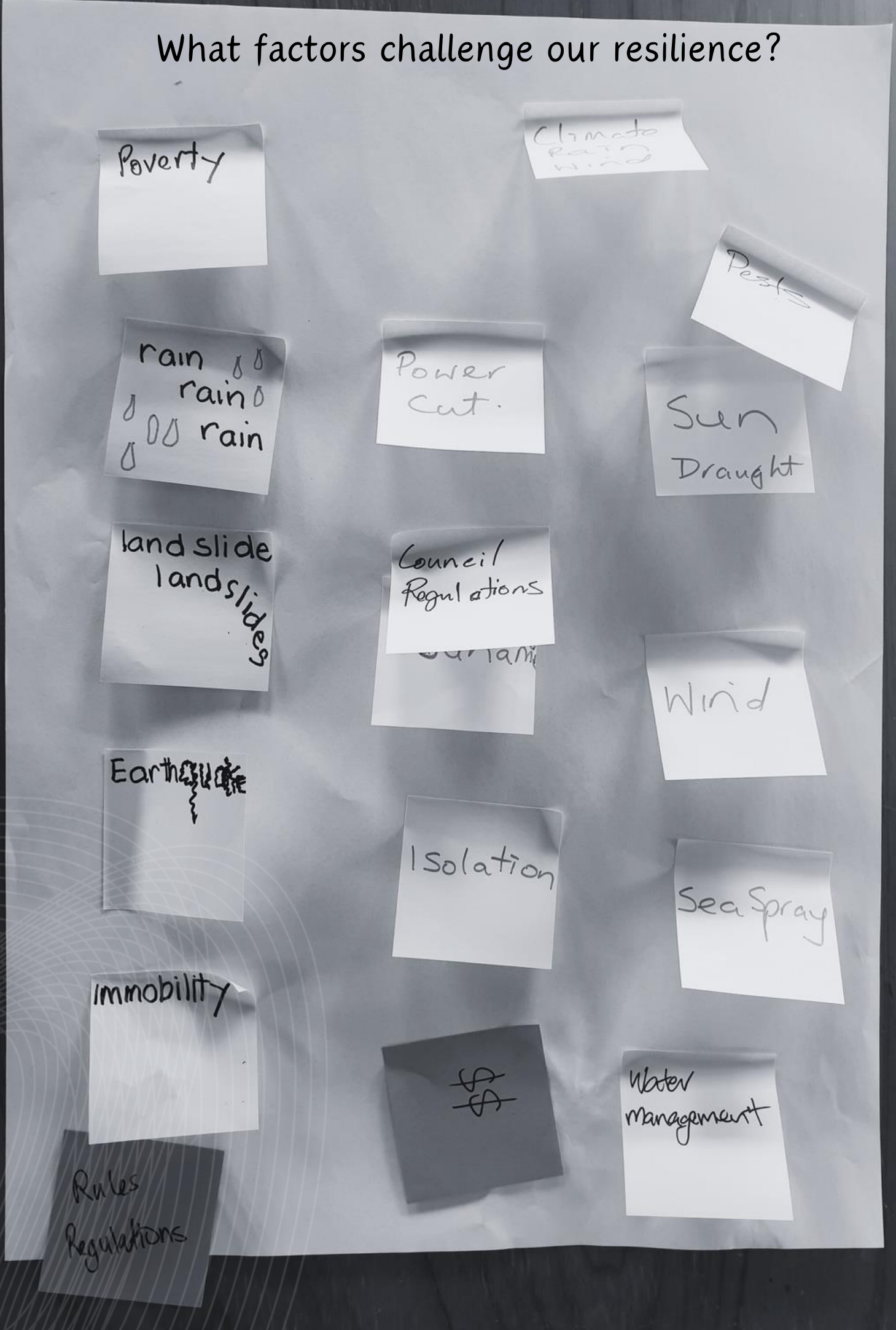
Looking at climate impacts and resilience is crucial for enhancing awareness, conducting risk and vulnerability assessments, informing resilience planning, promoting long-term sustainability and fostering community engagement:

Awareness and assessment - integrating climate impacts into planning helps us to identify specific hazards and areas most susceptible to climate-related risks, as well as facilitate risk and vulnerability assessments. This might draw from local knowledge (such as photos of the land in flood conditions - see following photos), or bring in outside expertise to add in as well.

Planning and adaptation - incorporating climate considerations into planning (such as infrastructure improvements and land-use adjustments), we can mitigate risks and enhance adaptive capacity, ensuring long-term sustainability.

Community engagement - stakeholders have the opportunity to contribute their knowledge and concerns, fostering a sense of ownership and collaboration in resilience-building initiatives. For instance, the following page shows a simple brainstorm from our wānanga, on things we needed to consider when thinking about climate-change and resilience.

What factors challenge our resilience?



We watched and waited, in fear and trepidation, as Pakuranui Stream turned into a raging river, rising then spilling over her banks, to race relentlessly towards our swollen ponds.

The ponds did not burst, and a sharp reminder that we now live amid climate change and all that that brings with it.

(Kathleen Morrison & Violet Pou)

NOTES

WHENUA

WHĀNAU

WHARE

LET'S LOOK AT...

master plans

RATIONALE

Why is this topic included in our workbook about climate resilience?

A masterplan is a comprehensive plan of an entire development. It includes the immediate area being considered for development, as well as areas that may not be built for several years into the future. Having a full and comprehensive birds-eye view of the development ensures that all of the components of development (whether built now or in the future) fit seamlessly into the larger scheme.

Importantly, the master plan is a chance to think much bigger than just designing and locating buildings, structures, and other infrastructure on the whenua. One way to think about it is like your whānau plan:

"Look at your masterplan. And it's not just a plan for housing. It's a whānau plan. It's not just how are we gonna do housing. It says, what is our master plan for our whānau?

ACTIVITIES

Activities and ways to explore the topic

We used a large aerial photo of Te Kinakina as a test case to look at masterplanning (photos on following page). In groups, we came up with a long-term vision for the whenua including multiple land uses across the whenua, including:

- identifying where the **prevailing winds** were, to consider planting a shelter belt or avoiding those areas for homes more generally;
- identifying **high and low points** on the site to locate potential water supply tanks;
- assessing the site's **access to sunlight** to identify the best sites for gardening;
- locating **existing services** such as roads and electricity lines, to locate homes close by to potentially reduce costs of connecting to that infrastructure;
- identifying **slopes and steep areas**, and steering clear of those areas for building;
- identifying potential areas for **wastewater runoff** from the homes; and
- considering the relationships between future homes and **wāhi tapu or old pā sites**, as well as contemplating the potential for allocating space for an urupā.

Beyond physical elements, this exercise also opened up the door to talk about growing kai, running businesses, connecting with the taiao, and other elements that form part of a broader whānau plan.

We then developed some of the initial kāinga ideas into some drawn master plans for six whare around a māra kai and interconnected footpaths - shown on the following pages.


1:2,250
0 140 280 560 ft
0 40 80 160 m


TE KINAKINA
case study


TE KAHA
BAY OF PLENTY

ABOVE: Kāinga layout with six standalone whare and a shared common building in the centre (drawing by Oscar McConaughy).

ABOVE: Kāinga layout with one mega-whare, comprising six units and a shared building in the centre (drawing by Oscar McConaughy).

ABOVE: Kāinga layout with six units (two duplexes, two standalone whare) and a shared common building in the centre (drawing by Oscar McConaughy).

ABOVE: Kāinga layout with three duplexes and a shared building in the centre-left (drawing by Oscar McConaughy).

NOTES

LET'S LOOK AT...

how we live together

RATIONALE

Why is this topic included in our workbook about climate resilience?

People can come in to a kāinga with different expectations of how things will function. While planning the physical design of the kāinga is important, it is critical not to forget about how you want to live together when the kāinga is built. How do you set the tikanga for the kāinga to work harmoniously? How you do instill some collective guidelines around what behaviours are (and aren't) accepted in the kāinga, to avoid future conflicts? Setting aside time to kōrero about these factors early will help to ensure the kāinga is resilient into the future.

For whānau that have been living away from the whenua or living in more individualised housing and neighbourhoods, there might be a period of 're-learning' how to live more collectively in a kāinga-style environment.

EXAMPLES

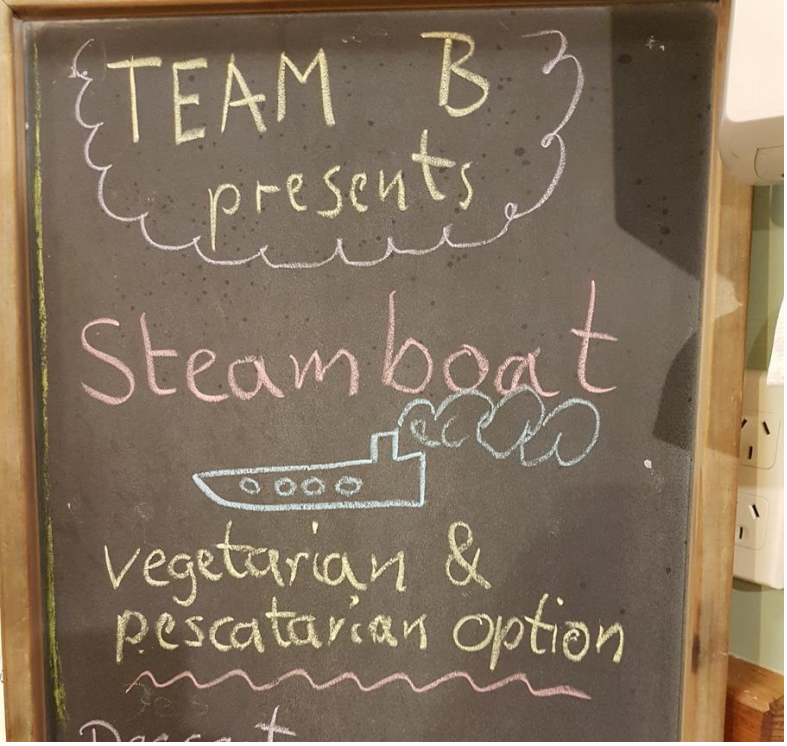
Case studies or other examples of this topic

Located in Rānui, West Auckland, **Earthsong Eco-Neighbourhood** is the first urban cohousing development constructed in Aotearoa New Zealand.

Residents in the development have the option to participate in up to two shared meals per week (i.e. eight meals per month). For one of those nights, they join a cooking team – they are responsible for buying the ingredients, preparing and cooking dinner, and cleaning up the dinner for that night. Then they can attend the other seven meals in the month that the other residents/cooking groups look after.

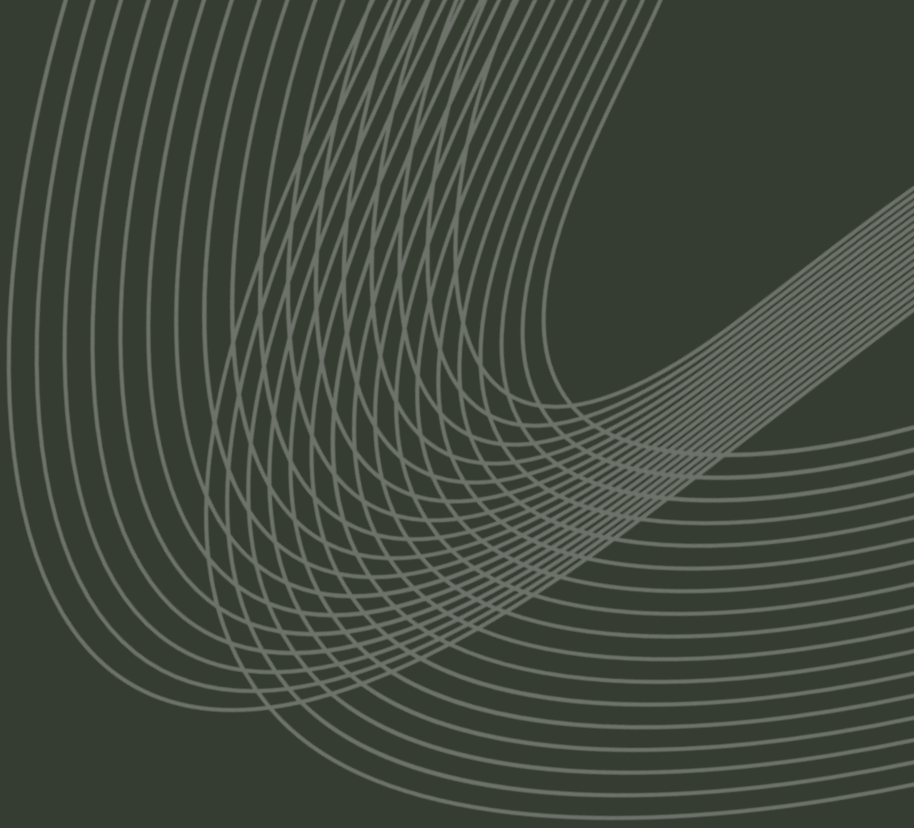
The photographs on the following page show one of the many shared meals that residents enjoy in their 'common house' (a shared, multi-purpose building on site which includes a commercial-level kitchen and dining room). This shared dinner was a 'steamboat dinner', where each table had its own cluster of ingredients and residents cooked them together in a hotpot.

Shared meals are a common feature in cohousing developments, and are one example of how residents purposefully think about how they want to live together by setting aside times to share kai. It's an opt-in activity, where whānau can choose whether or not they participate in the meals, but generally, most do. As well as sharing the tasks of preparing kai, the shared meals are a valuable time and place where lots of connections amongst residents are formed and built over time.


TEAM B
presents
Steamboat
vegetarian &
pescatarian option


TĀMAKI MAKAURAU
AUCKLAND

NOTES



WHENUA
WHĀNAU
WHARE

LET'S LOOK AT...

meanings of 'home'

RATIONALE

Why is this topic included in our workbook about climate resilience?

When designing individual whare, it is important to think about what is important in making a house, a home. A resilient home might include physical qualities of the house (e.g. warm, sunny, and free of mould), but it might also include non-physical aspects that help whānau to feel well-housed and at home. It could be ensuring that the whare has a view of a significant landscape (such as the maunga), or having spaces that are flexible to be able to host visitors. It is important to think about what it means to be well-housed on your whenua, as a starting point for thinking about the buildings that might come from that.

ACTIVITIES

Activities and ways to explore the topic

The HOMING Method

What you will need: 5-10 blank wooden blocks and some pens to write on the blocks

The HOMING method is a way of exploring what makes a house a home. In small groups, take some time to discuss what it means to be well-housed on your whenua. What are some ideas or factors that are important, to you, in a home? *(A fuller explanation of the method is attached after these pages).*

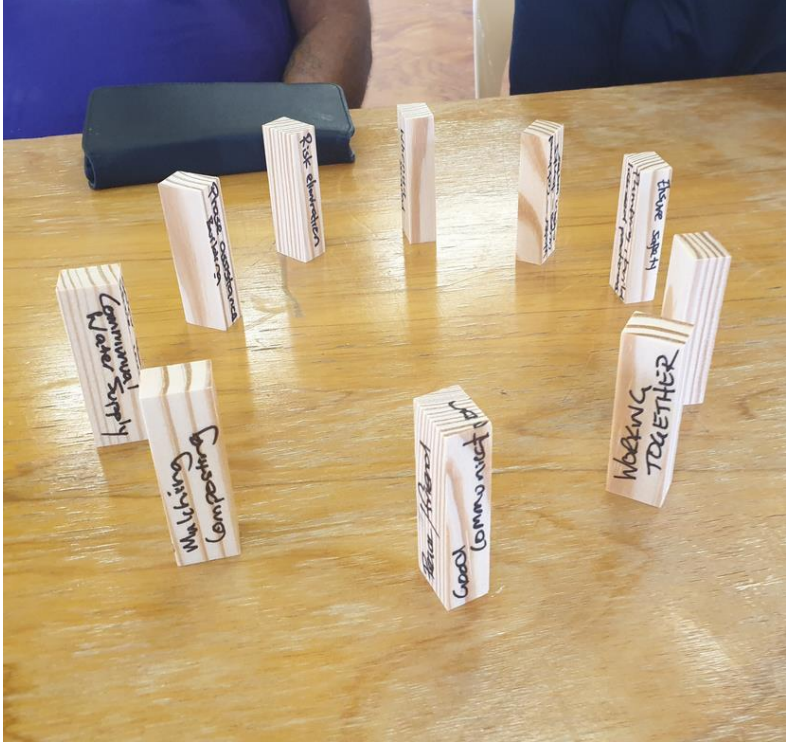
Once you've decided on the top ten or so factors, label each wooden block with one factor.

Then, arrange the blocks into a tower from most important to least important. How you build your tower is up to you and your group - depending on what you see as most important.

The following page shows some photographs where we tried the HOMING method out in our wānanga at Pahaoa Marae:

- TOP LEFT: a stack of blocks labelled and built into a vertical tower, with the most important factors at the bottom as the foundation of the tower.
- TOP RIGHT: this group arranged their blocks in a circle representing 'stay' lines (or support lines). This symbolised that all ten blocks were seen as equally important in holding up the kāinga for this group. For this group, whenua was the foundation on which the ten blocks sat upon.
- BOTTOM: one group in the middle of discussions and negotiations as they labelled their blocks.


All goes-
Kaumatua-


Working together


TE KAHA
BAY OF PLENTY

HOMING

A METHOD FOR EXPLORING WHAT MAKES A HOUSE A HOME FOR WHĀNAU MĀORI

DATE

AUGUST 2021

VERSION 1

PREPARED BY

JAMES BERGHAN, PHD

WITH ASSISTANCE FROM

FIONA CRAM, PHD

OVERVIEW

SUMMARY

HOMING is a research method that allows people to explore what makes a house a home for them. HOMING asks people what they value in a home, without making assumptions about what is important.

The first three letters of HOMING stand for Home Of Mine, while the 'ING' represents 'home' as the verb, or an action: what people feel, think and do that makes a dwelling a home for them.

This booklet describes how to implement the HOMING method, including the materials needed and considerations for reporting on feedback.

RATIONALE

Where people live can be just a shelter - a roof over their heads - or it can be a place they call 'home'. As researchers, we're interested in knowing more about what makes a place a home for the people living there.

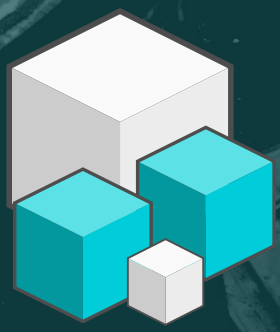
This information can then be used by those writing housing policies and strategies, and those designing and building dwellings, to think about the things that make a place a home.

GETTING READY

PARTICIPANTS

Anyone can be a participant in this method, including people as individuals or as groups (e.g. whānau). Groups can be made up of people of similar ages, or people from different generations.

If people are participating in groups, there are opportunities for them to come up with collective ideas about what makes a house a home. This can take time.



MATERIALS

You will need:

- 10 x wooden blocks (per person or group)
- Pens to write on the blocks
- 3 x painted blocks (red, yellow, green)
- Groups will also need to bring their best negotiation skills to the table!

BEGINNING

This method should have an appropriate beginning, where people are welcomed, kept safe, and are given an opportunity to introduce themselves to other participants.

The researcher should check in with the group of participants that it's okay for them to take pictures and recordings of the session.

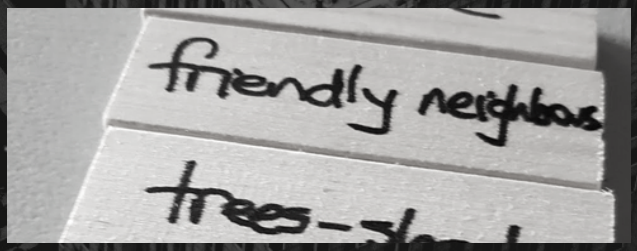
INSTRUCTIONS

1 DECIDING WHAT MAKES 'HOME'

Having a home can mean different things to different people. The first step is to decide what for you (as an individual / as a group) are **the ten most important things** that make a dwelling a home.

Each person / group is given ten blank blocks, along with 2-3 blocks that have something already written on them. These additional blocks are to show what we mean by writing on the blocks. You can use them as part of your ten blocks if you find that they belong there. If they don't, then don't use them - it's up to you.

Once you've come up with your list of ten things, write each key word or short idea on a block (1 idea or key word per block).



Groups might need around 20-30 minutes to decide and negotiate the ten most important things. Individual participants may need less time.

2 BUILDING A TOWER

Now that you've decided on your ten most important things about what makes a home, it's time to build a tower. Stack the 10 blocks in order from least important to most important.

You can build your tower of blocks in any shape you like - whether it's a pyramid, one vertical tower with all ten blocks, however you want. The main thing is to capture the order.

Individuals and groups may take around 10-20 minutes to decide on, and build their towers.

3

FEEDING BACK

Once all participants have placed their blocks in order in a tower, it's a chance to go around the room and hear back from everyone about their ten most important things, and their order of importance.

This is a chance for participants to share how they define the word or concept written on the block, if it's not obvious (especially from the limited space to write it on the block).

For groups, this is a good time to share any particular points of agreement or disagreement, and how those points were negotiated.

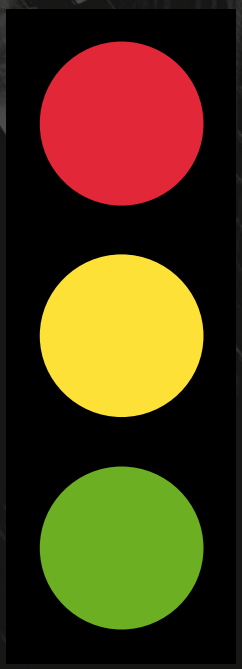
4

CURRENT HOME ASSESSMENT

The next step is for participants to rate the performance of their current dwelling, using their list of the ten most important characteristics. This rating is done by participants building another tower, using a traffic light base.

Give each participant or group three painted blocks: one red, one yellow and one green. Arrange them in a row, like a traffic light: red, yellow, green.

Participants then stack their 10 blocks on top of each colour, depending on how their current dwelling responds to the idea written on the block.

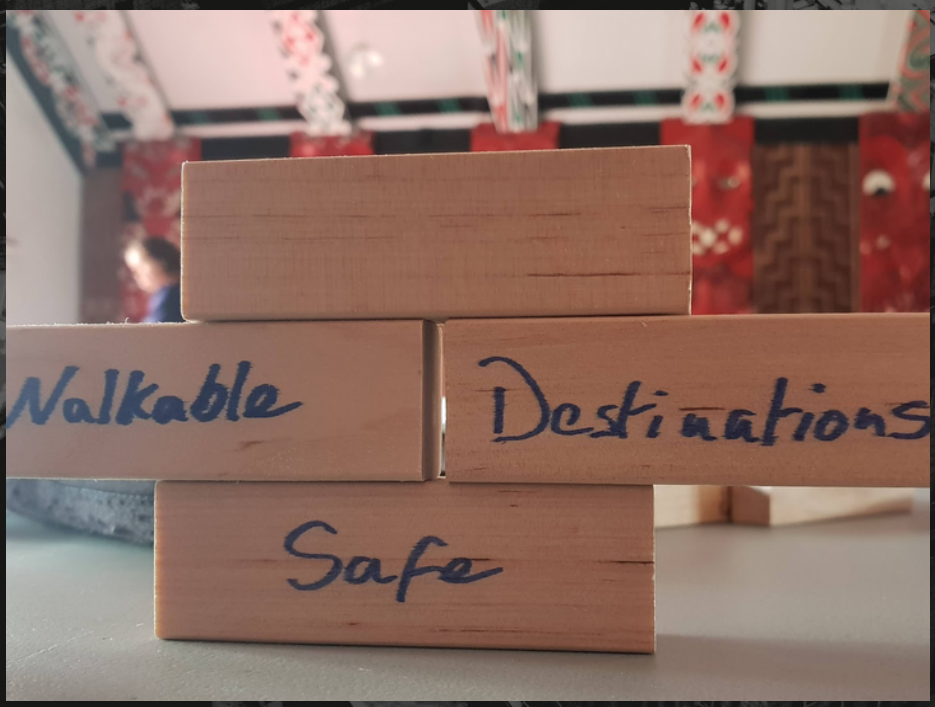


Stacking a block on the **RED** base indicates that these things are absent from their present dwelling.

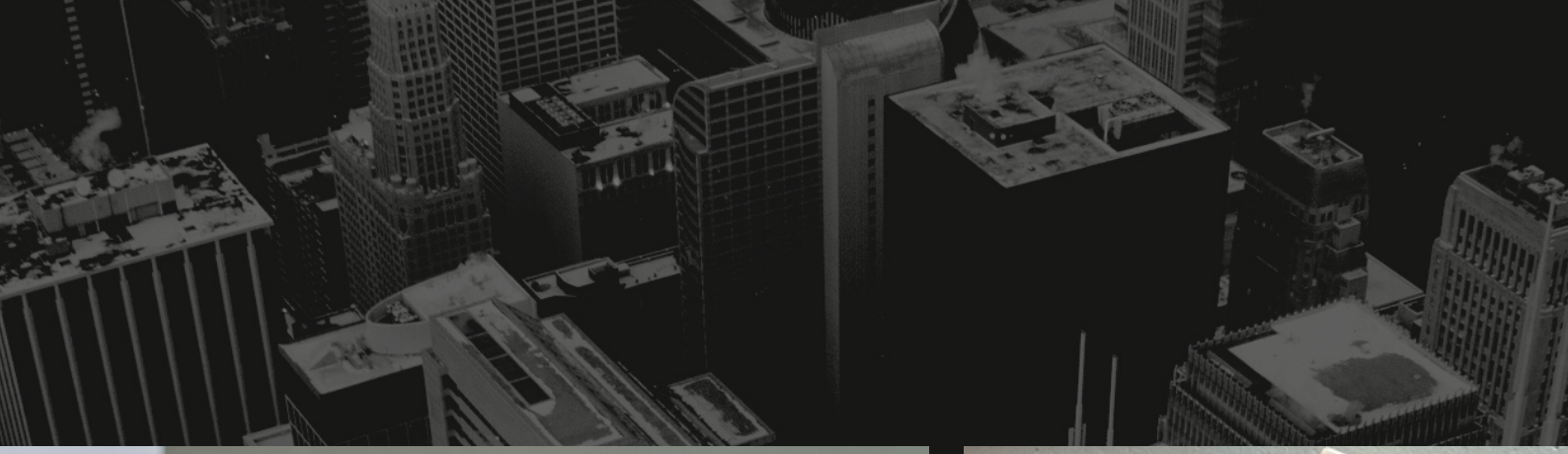
Stacking a block on the **YELLOW** base indicates that these things are partially present.

Stacking a block on the **GREEN** base indicates that these things are fully present.


SHORT STREET
(KNOWING PEOPLE)
COMMON
SPACES
PRIVACY
ACCESSIBLE
& PUBLIC TRAN
WALKABLE
(CARS AWAY)
FAMILIES
EDIBLE PLANT
(FORAGING)
FRIENDLY
OPEN
WARMTH
(HEATING)
LIGHTING
WILDLIFE
& ANIMALS
GREENERY
(PLANTS)


Walkable
Destinations
Safe


Big tall
Bumping
Community
Social




Walk and cycle friendly
Special
Nature
Happy, friendly people
Birdsong
Bumping Spaces
Diversity
Low or no fences
Gathering Places

5

FEEDING BACK

Following the current home assessment, this is another chance to go around the room and hear back from participants about some of the things that might be missing from current dwellings, as well as things that are there all the time.

6

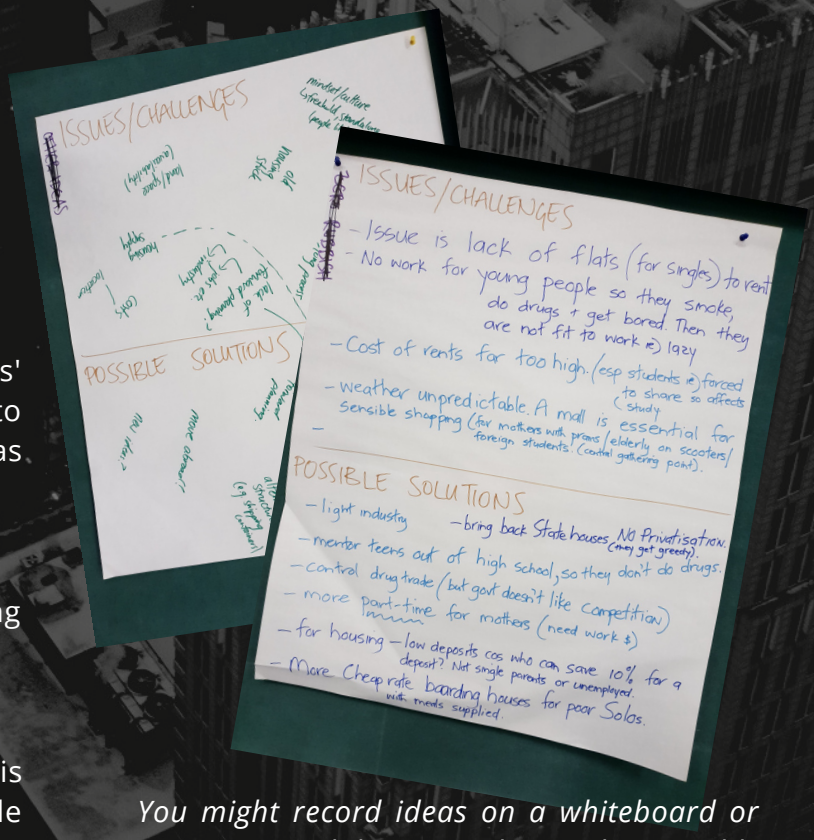
BRAINSTORM

This next step expands on participants' assessments of their current homes, to explore some of the local challenges as well as potential solutions.

For each block, ask:

- What are some challenges to achieving this word / concept?
- What could be possible solutions?

Proceed like this until time is up. This exercise is important as it leaves people feeling like there are solutions, and that it's important for people to have somewhere that's a home for them.



You might record ideas on a whiteboard or PowerPoint slide in a three-column table with headings: 'Home', 'Challenges', and 'Solutions'.

7

FINISHING UP

The final task can be a round of checking in with people about how they've found the exercises, followed by appropriate thanks and farewells.

Thank you

SOME COMMENTS

Existing housing assessment tools tend to pre-determine the indicators by which 'success' is being measured against. This first iteration of the HOMING method is grounded in principles of Kaupapa Māori research and places research participants firmly in the 'driving seat' of the project. By encouraging participants to define the assessment parameters, or the measures of success that they see as being important, we hope that this will empower participants to see that they bring valuable thoughts and ideas to contribute.

The idea of using blocks (nicknamed 'aro rākau' by a kuia participating in the process) was an attempt to bring in an element of 'play', to act as a mediator of communication between different groups of people. We're trying to engage people in different ways, to take away the reliance on numeracy or literacy that might be prominent in other research methods such as questionnaires or surveys.

LESSONS SO FAR

People are disobedient!
Originally, the plan was for participants to stack their blocks in one vertical tower from most important to least important - but people rarely created their towers like this! We have since eased back on this instruction, giving participants more flexibility and creativity to create whatever structure they like, to represent the different levels of importance to them.

It's not always quick
While some individuals and groups can work through the stacking fairly rapidly, others take a lot longer to negotiate and stack their blocks, so you need to be flexible with time. It might take all of your allocated time just to complete a few of the steps, or you may need to schedule multiple sessions to get through to the end.

Be aware of the context
Different groups of participants with different backgrounds need different levels of guidance to get started. It can be helpful to start any session with a general housing discussion to help set the scene for the block activity.

FEEDBACK

This is the first iteration of the HOMING method. Through our collective efforts as a research team, we are trialling the method in different settings, but if you try the method, we would love to hear your feedback so we can continue to improve aspects that might not be clear, or working so well (contact details on back page).

This guide has been prepared by:
James Berghan, PhD (University of Otago)
with assistance from Fiona Cram, PhD (Katoa Ltd)

Contact: james.berghan@otago.ac.nz

AFFORDABLE HOUSING FOR GENERATIONS
Building Better Homes, Towns and Cities National Science Challenge

National Science Challenges
BUILDING BETTER HOMES, TOWNS AND CITIES
Ko Ngā wā Kainga hei whakamāhorahora

NOTES

LET'S LOOK AT...

solar power

RATIONALE

Why is this topic included in our workbook about climate resilience?

Considering solar power in conversations about climate-resilient kāinga is crucial for several reasons:

Renewable energy source - solar power is a clean and renewable energy source that reduces reliance on fossil fuels, thus lowering greenhouse gas emissions and mitigating climate change impacts.

Energy independence - installing solar panels in kāinga promotes energy independence by generating electricity on-site. This reduces dependence on centralised power grids, making kāinga more resilient to disruptions in energy supply such as from extreme weather events.

Cost savings - solar power can lead to cost savings on electricity bills over time. By generating your own electricity, you can reduce or eliminate your reliance on grid electricity.

Community empowerment - incorporating solar power into kāinga fosters community empowerment, by providing whānau with greater control over their energy production and consumption.

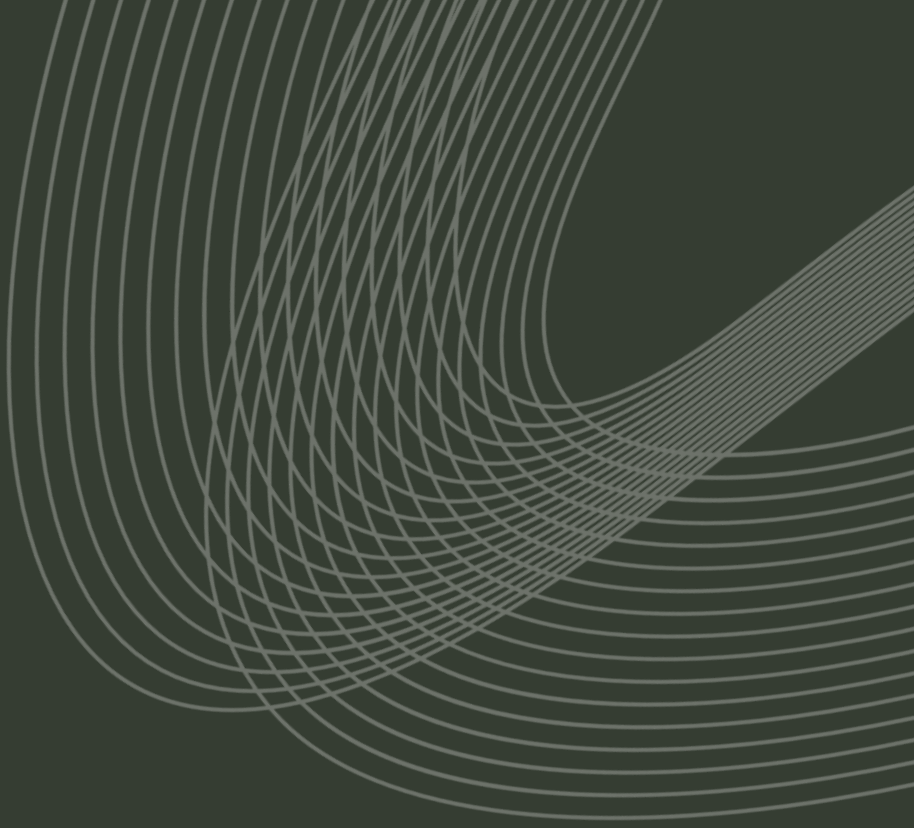
EXAMPLES

Case studies or other examples of this topic

One business in the eastern Bay of Plenty is **Solar Options,** a company owned and operated by Gerry and Simone Magner. Gerry and Simone live in a home powered entirely by solar on Ohakana Island in Ohiwa Harbour.

They featured on an episode of "Off the Grid" with Pio Terei (available on Māori TV), where they shared their story.

NOTES



RESILIENT

Starting conversations about climate-resilient kāinga

TEMPLATES

The following pages contain blank sheets for new topics that you can use to add and continue building your own workbook based on topics that are of interest and relevance to you and your whānau.

LET'S LOOK AT...

RATIONALE

Background information about the topic

Why is this topic included in our workbook about climate resilience?

LET'S LOOK AT...

RATIONALE

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Case studies or other examples of this topic

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ACTIVITIES

Activities and ways to explore the topic

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