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Institutionalising Community-based Adaptation in Aotearoa New Zealand

Abstract

This article reflects on policy-relevant lessons learned through participatory action research to enable community-based adaptation in four community settings in the Manawatū-Whanganui and Taranaki regions of Aotearoa New Zealand. Each setting is distinctive, with specific insights relevant for institutionalising community-based adaptation. Here, we focus on ten overarching policy- and practice-relevant lessons based on our reflections on working with these communities.

Adaptation is ultimately a pact-making process which begins with community mobilisation, before proceeding to building shared understanding about risk, identifying plausible adaptation responses and pathways, and negotiating institutionalisation of adaptation actions as an integral part of ongoing, reflexive community-based adaptation.

Keywords community-based adaptation, locally-led adaptation, pact-making, community partnerships, Aotearoa New Zealand

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Extreme weather events and disruptions compounded by climate change are commonplace. Communities along low-lying coasts and near rivers face pronounced, escalating risk (Glavovic et al., 2022; Oppenheimer et al., 2019). Building community-based adaptive capacity and resilience is therefore imperative. However, no single governance actor can enable community-based adaptation on their own. Community-based partnerships need to be built between at-risk residents, tangata whenua, local government, and stakeholders such as ministries, non-governmental organisations, and community-based and private sector organisations. This article outlines policy- and practice-relevant lessons learned through participatory action research in four community settings in Aotearoa New Zealand: the Rōhutu Block at Waitara East beach and Waitōtara village and valley in Taranaki, and Pūtiki and Tangimoana in the Manawātū-Whanganui region. The research was funded and carried out under the Deep South National Science Challenge,¹ with financial and in-kind contributions from Horizons Regional Council and Massey University, along with vital contributions from partners in each setting.² This two-year project (mid-2022 to mid-2024) was preceded by a nearly one-year engagement phase to identify candidate case study communities and initiate partnership-building with relevant governance actors.

This article has four main sections. First, we briefly introduce our research aim, approach, methods and practices. Second, we explain what community-based adaptation is and why it is central for real-world adaptation, including the influence of the national adaptation policy setting. Third, each community setting is described and policy- and practice-relevant issues are spotlighted. Finally, ten overarching policy- and practice-relevant lessons are distilled, before conclusions are drawn.

Research aim, approach, methods and practices

Our research aimed to advance understanding about how adaptation governance interactions shape community-based adaptation in a bicultural setting bound by te Tiriti o Waitangi obligations.

The scope of the project was ambitious given the constraints of the Deep South National Science Challenge budget and two-year time frame.

From the vantage point of at-risk residents, however, the more immediate imperative was to identify and initiate actions to reduce risk and strengthen adaptive capacity and community resilience. Therefore, in addition to our ‘pure’ research aim, our project aimed to support case study communities through adaptation planning and action founded on strengthening relationships between at-risk residents, tangata whenua, local government and relevant stakeholders.

Our research approach involved co-design and participatory action research. We actively sought to involve those potentially affected by the project. The goal of participatory action research is to make a real-world difference by prioritising local knowledge and experience and enabling locally driven transformative change (Baum, 2006; Cornish et al., 2023; Kemmis, McTaggart and Nixon, 2014). From the outset we decided that judging project ‘success’ would best be determined by: (1) whether or not at-risk residents and community members considered the project engagement and outcomes to be meaningful and empowering; and (2) whether relationships deepened between those ‘at risk’ and local authorities and tangata whenua during the project, and endured beyond the project’s two-year time frame.

The project was subject to rigorous ethics review at Massey University.

Systematic recording of activities by team members and team reflections were complemented by extensive key informant interviews, carried out mainly in the last six months of the project. Interviewees included a cross-section of people actively involved in the project, as well as many people who were less directly involved. Interview data was critically evaluated using reflexive thematic analysis. Many intensive team-working sessions helped build shared understanding, track progress, pivot when circumstances required, and co-produce findings relevant for adaptation policy and practice.

At the outset, we sought guidance from local government, tangata whenua and community leaders in both regions about which communities along rivers and/or near the sea were priority candidate case studies, to ensure that the work initiated through this project would continue beyond its lifetime. The Manawātū-Whanganui Climate Action Joint Committee was the ideal forum to guide case study selection in this region. The committee has representation from leaders of each of the region’s councils and tangata whenua. Ten candidate community localities were short-listed, and the Climate Action Joint Committee decided that the project should focus on Pūtiki and Tangimoana.

No such regional-level forum was then in place in Taranaki. After consulting staff in iwi liaison, emergency management and policy and planning at the Taranaki Regional Council, New Plymouth District Council and South Taranaki District Council, along with tangata whenua, two priority localities were identified: the Māori freehold Rōhutu Block at Waitara East beach, and Waitōtara village, with linkages into the valley. Consultation with the trustees of the Rōhutu Block Ahu Whenua Trust and Ngā Rauru Kitahi kaumatua affirmed the merit of these candidate case study communities. (See Table 1 for location and demographic details.)

The scope of the project was ambitious given the constraints of the Deep South National Science Challenge budget and two-year time frame. Extensive engagement took place between mid-2021 and the project start date in mid-2022. Three of the

Table 1: Location and demographics of the case study community settings

	Rōhutu Block	Waitōtara village	Pūtiki settlement and marae	Tangimoana village
Location	At Waitara East on the bank of the Waitara River mouth about 17 km north of New Plymouth	On State Highway 3 next to the Waitōtara River about 10 km south of Waverly and 34 km north of Whanganui	At confluence of state highways 3 and 4 next to the Whanganui River; a few kilometres upstream from the river mouth	On the south bank of the Rangitikei River mouth about 30 km west of Palmerston North
Demographics (from Statistics New Zealand, other than Rōhutu Block)	About 30 homes on a block of Māori freehold land managed by the Rōhutu Ahu Whenua Trust	About 70 residents (circa mid-2024); about 66% Pākehā, 34% Māori	About 770 people (circa mid-2024); about 65% Pākehā, 35% Māori	About 370 residents (circa mid-2024); about 90% Pākehā, 10% Māori

four candidate case study communities ultimately opted to participate in the project: Pūtiki, Tangimoana, and the trustees on behalf of residents of the Rōhutu Block, along with their respective governing authorities. Context-specific circumstances shaped how the project unfolded in each case study locality.

Before recounting these case study experiences, the next section considers what community-based adaptation is and how it is unfolding in Aotearoa New Zealand.

Community-based adaptation: Aotearoa New Zealand setting

Local-level adaptation efforts have proliferated in Aotearoa New Zealand in recent years (Lawrence et al., 2024, 2025; Rouse et al., 2017), and many of them have been initiated and led by local government – for example, on the Kāpiti Coast (Iorns Magallanes, James and Stuart, 2018), in the Coromandel (Schneider and Glavovic, 2019, 2022), in Hawke’s Bay (Ryan et al., 2022; Schneider et al., 2020) and South Dunedin (Bond and Barth, 2020). The key role played by local government in building local adaptive capacity has long been recognised (Lawrence et al., 2015). Ministry for the Environment guidance for local government has informed these adaptation efforts for well over a decade (Bell et al., 2017; Ministry for the Environment, 2008). Lessons learned from this experience have shaped adaptation practice and the guidelines continue to be updated to reflect practitioner and local government experiences (Ministry for the Environment, 2024). Increasingly, attention is focused on

adaptation led by tangata whenua (Bailey-Winiata et al., 2024; Blackett et al., 2022; Bryant, Allan and Smith, 2017; Mihaere et al., 2024; Reid et al., 2024; Smith, 2020). By contrast, less attention has focused on how at-risk residents and community members might drive adaptation efforts, with some noteworthy exceptions (Simon, Diprose and Thomas, 2020).

What is community-based adaptation?

Community-based adaptation scholarship and practice have burgeoned over the last two decades (Dodman and Mitlin, 2013; Forsyth, 2013; Kirkby, Williams and Huq, 2018; McNamara and Buggy, 2017; Piggott-McKellar et al., 2019; Spires, Shackleton and Cundill, 2014; Vincent, 2023). Community-based adaptation is centred in the communities facing climate-compounded risk. It revolves around a specific community’s vision, values and needs; priorities; knowledge and experience; and capabilities to jointly understand and reduce risk and build coping and adaptive capacity and resilience over time. Community-based adaptation posits that those most at risk are well placed to determine how they should adapt and, being directly affected, are incentivised to sustain adaptation efforts over time, with enabling support as necessary. In essence, it empowers communities to adapt in turbulent times.

While it is a truism that adaptation is local, multi-level governance interactions open up or close down opportunities for effective and enduring locally-led adaptation, from local government regulatory provisions and practices to the

national policy setting, and prevailing societal norms and praxis. These interactions influence how adaptation planning is embedded or institutionalised in different community settings. How then might CbA be mainstreamed into local planning and decision making?

Mainstreaming or institutionalising community-based adaptation

Mainstreaming CbA involves integrating adaptation into local planning, budgeting, decision making, and day-to-day community activities, and into the processes, practices and structures of relevant governing authorities, including local councils and Māori authorities. Mainstreaming CbA is synonymous with institutionalising community-based adaptation.

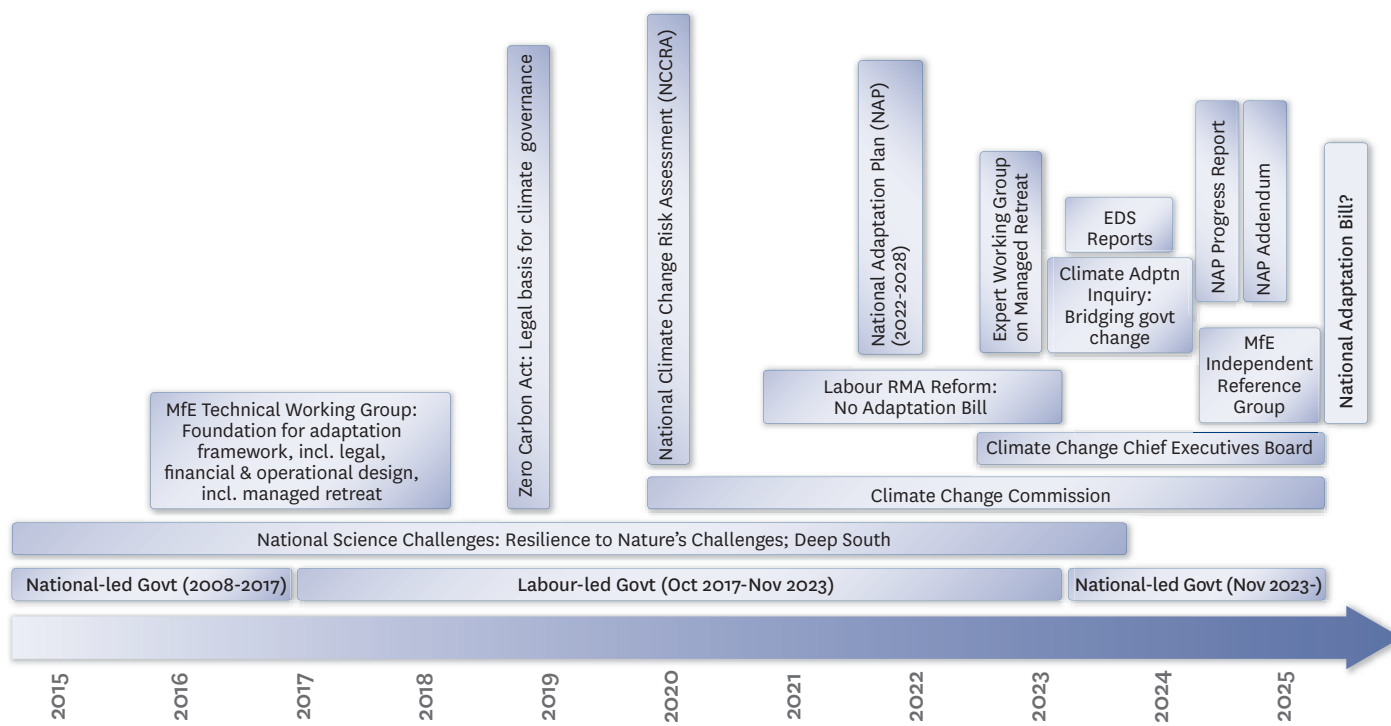
Many formal and informal community-relevant initiatives are underway to future-proof communities across Aotearoa New Zealand, from district plans to iwi management plans, emergency response plans and many more. Dedicated adaptation planning and action is also underway, typically led by local government and often facilitated by independent consultants (Lawrence et al., 2015, 2024, 2025; Ryan et al., 2022; Schneider et al., 2020; Schneider and Glavovic, 2022). While there is a burgeoning portfolio of local adaptation planning, however, mainstreaming has been frustrated by the adaptation policy lacuna – the legislation necessary to establish a coherent national adaptation framework.

Towards a national adaptation regulatory framework

Aotearoa New Zealand produced its first national adaptation plan in 2022. But the promised legislated national adaptation framework necessary to translate the plan into local action has yet to be promulgated. Nonetheless, extensive work has been carried out over the last decade towards this end; some of the key initiatives are depicted in Figure 1.

The adaptation imperative is widely accepted. Foundation stones for adaptation governance have been put in place through, inter alia, the Climate Change Response (Zero Carbon) Amendment Act 2019, which, in addition to its greenhouse gas

Figure 1: Some key initiatives over the last decade that inform a legislated national adaptation framework



emissions provisions, initiated six-yearly national climate change risk assessments and a national adaptation planning and monitoring process. It also established the independent Climate Change Commission, and put in place regular reporting and parliamentary and public disclosure and engagement processes. Extensive work has been done on ways to address vexing issues like cost sharing and roles and responsibilities for long-term adaptation and resilience building. Many adaptation responses, such as sea walls or managed retreat/planned relocation, are prohibitively expensive and only in exceptional circumstances affordable for at-risk local communities, tangata whenua and their governing authorities. Recent climate-compounded disasters like Cyclone Gabrielle and the 2023 Auckland Anniversary weekend floods underscore the urgent need for an enduring, equitable statutory framework that resolves the 'how and who pays' questions about adaptation.

The current government promises a Climate Adaptation Bill by the end of 2025 to address cost sharing, including for post-disaster recovery; clarify governance roles and responsibilities; better understand and share information about climate risk and response options and pathways; and address how to invest in resilient infrastructure. This is urgently needed by those already ramping up

adaptation efforts. Implementation of local adaptation planning is stymied by the unaffordable costs of compelling medium- to long-term interventions and the unresolved question of 'who pays'. While closing the adaptation legislation gap is necessary, however, it is not sufficient, because of the continuing policy impasse between National- and Labour-led governments offering divergent ways forward.

Under the previous, Labour-led government, an Expert Working Group on Managed Retreat and a parliamentary Environment Committee inquiry into community-led retreat and adaptation funding (Expert Working Group on Managed Retreat, 2023; Ministry for the Environment, 2023) identified key issues and options and mapped out constructive ways of tackling them. The Expert Working Group made 89 recommendations in its 292-page report, thus providing the government with one of the world's most detailed examinations of managed retreat policy issues, options and recommendations.

Though Labour's promised Climate Adaptation Bill was not forthcoming, the incoming National-led government progressed the work under a cross-party inquiry led by the Finance and Expenditure Committee, which reported at the end of September 2024 (Finance and Expenditure Committee, 2024). The Ministry for the

Environment then established an Independent Reference Group, which issued a 16-page report in mid-2025 (Independent Reference Group on Climate Adaptation, 2025). Compared with the detailed analysis and recommendations outlined in Labour's Expert Working Group report, this latest advice to government is devoid of the crucial detail necessary to inform a robust and enduring legislative national adaptation framework.

From a glass-half-full perspective, continued focused work on the national adaptation framework design is welcome. The 2017–23 Labour government put in place key institutional elements for effective adaptation governance through the Zero Carbon Act, the independent Climate Change Commission, and a robust process for climate risk assessment and national adaptation planning informed by Tiriti commitments, science-led risk assessment with community engagement, and guidance to support local adaptation. The current government has continued this work, shifting the focus to operationalising local adaptation by investigating rules for cost sharing and practical implementation, including defining thresholds for interventions like buy-outs, within fiscal constraints. The upshot is expected in the promised Climate Adaptation Bill to be tabled by the end of 2025 – progress, apparently.

From a glass-half-empty point of view, successive governments have divergent approaches that could result in flip-flopping on national policy direction, with a negative impact on local communities, tangata whenua and local government. The Labour approach was Tiriti-led and equity- and justice-focused, and accepted that the Crown needs to be involved in major adaptation and post-disaster situations, including cost sharing. By contrast, given the scale and cost of ongoing adaptation, the current National-led government seems likely to prioritise fiscal responsibility, end post-disaster bailouts and managed retreat funding by the Crown, and shift adaptation incentives and responsibilities onto markets and those at risk in the coming 20 years, based on its advisory group advice. Under this point of view, private property rights are paramount and market incentives override Crown duties and responsibilities, and while Treaty obligations are acknowledged, consultation trumps co-governance. While the bill is yet to be introduced, the current direction is profoundly troubling; it will inevitably result in enduring deleterious impacts on exposed, vulnerable communities, and generate inconsistent, inequitable and unjust adaptation outcomes, especially for Māori.

Flip-flopping from one orientation to the other will be debilitating for all New Zealanders, given the ‘forever’ nature of global warming. An enduring, genuinely cross-party approach is obviously necessary, one which reconciles Labour’s Treaty-led, equity-centred approach and National’s fiscal discipline and ex ante rules-based and cost-sharing, burden-shifting logic. As things stand, the country’s adaptive capacity is woeful; a sea change is urgently needed (Naish et al., 2024).

Meanwhile, many local communities already face more intense and frequent extreme climate-compounded disruption. Adaptation action is underway now, notwithstanding the absence of a national adaptation framework and policy consensus. How is adaptation unfolding at the local level?

Adaptation in practice:

adaptation pathways planning

Adaptation pathways planning has become

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the core logic for adaptation practice in Aotearoa New Zealand, underpinning Ministry for the Environment guidance and local adaptation efforts (Lawrence et al., 2025; Ministry for the Environment, 2024). Adaptation pathways planning is a structured process to identify and decide on short-term risk reduction and adaptation interventions (e.g., 1–10 years), mindful of plausible medium- (e.g., 10–50 years) to longer-term (50–100+ years) actions that might be needed when initial interventions reach their ‘sell-by date’, thus enabling affected parties to address risk and realise their aspirations over time. The key construct underpinning early conceptualisation of adaptation pathways planning was how to engage with inherent deep uncertainty when planning for a future layered with inevitable sociopolitical, demographic, economic, technological, environmental and climate change. Structured consideration of prevailing risk and accounting for the implications of unfolding circumstances enable more credible, salient and feasible adaptation

interventions to be sequenced and adjusted over time (Haasnoot et al., 2013).

In practice, tangata whenua, residents and community members are routinely consulted but seldom proactively engaged as foundational partners in the co-design and institutionalisation of adaptation pathway plans (Ryan et al., 2022; Simon, Diprose and Thomas, 2020). It is difficult to mainstream local adaptation efforts into local government’s formal regulatory planning provisions or into relevant hapū and iwi planning and decision-making processes (Stephenson et al., 2020). Binding commitments by relevant governance actors to work together on an ongoing basis are much needed, but seldom achieved. Such commitments necessarily involve at-risk residents, mana whenua, local government and other community stakeholders, and are foundational for advancing CbA in Aotearoa New Zealand (Bond and Barth, 2020; Cradock-Henry and Frame, 2021; Glavovic, 2022, 2025; Simon et al., 2020; Stephenson et al., 2020). How, then, might real-world CbA be achieved? The next section describes how our research explored this question.

Adaptation experiences

in case study communities

Rōhutu Block, Waitara East, Taranaki

By 2021, six homes on the Waitara East shoreline had become unsafe due to the impacts of coastal storms and accelerating erosion. The New Plymouth District Council had identified this block of land as a priority concern, and long-term plan funding was allocated to support at-risk residents prior to the start of the Deep South project. A close working relationship developed between the Rōhutu trustees and New Plymouth District Council staff. The opportunity arose for the Deep South project to complement the work already underway to demolish the six unsafe structures and help residents relocate. This enabled the Deep South project to look beyond immediate risk reduction and support medium- to long-term CbA.

Initial partners included the Rōhutu Trust on behalf of the residents, the district council and Massey University. We recognised the imperative to include additional partners, notably Taranaki Regional Council and hapū and iwi, as

soon as possible. Agreement was reached on foundational principles for how the New Plymouth District Council, Rōhutu Trust and the Massey team would work together to align the long-term plan project and the Deep South project. The importance of this initiative was discussed and endorsed by Rōhutu residents at a hui that explored community views on the risks faced and ways forward. The Rōhutu community was mobilised and eager to better understand and address climate-compounded risk and progress adaptation planning and action, and the New Plymouth District Council was committed to supporting them.

Efforts to advance the Deep South project with meaningful resident involvement were, however, thwarted by pending legal action to evict a person living unlawfully on the block and safety concerns arising from their history and gang affiliations (Shaskey, 2023). Progress was also hampered by capacity constraints experienced by project partners, including restructuring and staff turnover at the district council.

Nonetheless, the New Plymouth District Council continued to support the most at-risk residents. Importantly, an additional three years of funding at \$100,000 per annum was allocated in mid-2024 to demolish the six red-stickered houses and support the affected households. The council and the Rōhutu trustees decided to reconsider ways to progress medium- to longer-term adaption planning after the Supreme court denied the squatter's application to appeal his eviction (Martin, 2024). But this did not take place until after the closure of the Deep South project. The at-risk homes have since been demolished, appeals by the squatter have now been legally exhausted, and the New Plymouth District Council and Rōhutu Trust are about to explore adaptation planning for the block and surrounding Waitara community.

The core revelation is that adaptation is relational, founded on trust. The strong New Plymouth District Council–Rōhutu Trust partnership was developed to address pressing residents' needs – a practical entry point for initiating CbA planning and action. The council prioritised action on the block in part because those most at risk

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included especially vulnerable people unable to avoid hazard exposure and relocate safely on their own. But given the costs already incurred, with two tranches of long-term plan funding, it is likely that a Tiriti-based governance approach will be needed, with Crown and hapū and iwi support, to develop and institutionalise a community adaptation plan for the block. Ongoing work by local government staff working with the trust and residents as Tiriti partners continues. But deepening and extending the district council–trust partnership to include hapū and iwi and the Taranaki Regional Council is also necessary.

The Rōhutu experience also demonstrates that adaptation is integral to a community's social life and development prospects. Circumstances that have nothing to do with climate-compounded risk can materially shape adaptation prospects. Mainstreaming CbA into local government and Māori planning and decision-making processes is manifestly complicated, involving contested historical and contemporary governance interactions, but nonetheless crucial for building enduring adaptive capacity. Working together is vital if shared understanding about risk and adaptation possibilities is to be deepened and joint problem-solving capabilities institutionalised.

Waitōtara village and valley, Taranaki

Waitōtara village has flooded many times over the decades, including in 2015, and is consequently an emergency management priority for the South Taranaki District Council. The Massey team was advised to explore Ngā Rauru Kītahi interest in partnering in this project because of the close connections between many people in the village and the Waitōtara valley. Iwi leadership confirmed interest, and it was suggested that a valley-wide perspective would be more meaningful than focusing on the village alone. Light could then be shone on practical challenges and opportunities for people in peril evacuating across district council boundaries, compelling joined-up council and tangata whenua–local government emergency response and adaptation efforts.

Adaptation work was already underway in the valley, with the Ngā Rauru Kītahi climate change strategy developed in partnership with the Ministry for the Environment in place by the end of 2021 (Te Kaahui o Rauru and Ministry for the Environment, 2021). A host of related activities were underway or have since been initiated, from ministry-funded work on water quality and flood warning systems to exploring nature-based solutions, and engagement with two other Deep South projects. After protracted efforts by the Massey team to advance this partnership, however, Ngā Rauru decided not to participate in this project because of capacity constraints and other commitments and priorities. Their adaptation work continues through iwi and hapū initiatives and partnerships with local government, among others.

The need to synchronise externally driven initiatives with tangata whenua priorities and capabilities is key. 'Outsiders' need to build trust, but this takes time. Ngā Rauru is progressing marae, hapū- and iwi-based adaptation planning and action on their terms and time frame, through partnerships with the Crown, the regional council and other parties.

Pūtiki, Manawatū-Whanganui

Initial engagement with the Pūtiki community stemmed from the Manawatū-Whanganui Climate Action Joint Committee endorsement and through

online and face-to-face engagement with tangata whenua leadership, the community, the Whanganui District Council and Horizons Regional Council. Through these interactions, especially guidance from the Pūtiki Wharanui chair and tangata whenua leadership, it was made clear that the immediate priority was to reduce exposure to flooding from the Ngatarua and Awarua streams, especially the risk faced by elderly residents in the kaumātua flats in the lowest-lying area of Pūtiki. Water from the surrounding hills is channelled by these streams through culverts under the state highway that runs through Pūtiki. The culverts, primarily the responsibility of the New Zealand Transport Agency Waka Kotahi, cannot cope with the frequent heavy downpours that expose residents to extreme ponding, which could be exacerbated by the Whanganui River flooding; this risk is compounded by proximity and connection to the sea, with spring high tides and rising sea level. The potential for compounding and cascading flood risk due to interactions between the main river (awa) and streams in the area warranted more focused attention, and initial engagement affirmed the merit of progressing this Deep South project in Pūtiki.

Efforts to build on this initial engagement were, however, frustrated by community dynamics which caused confusion about how best to directly involve at-risk residents and community members, and project progress slowed down. Frustration on the part of some at-risk residents about this slow progress reflected over two decades of cumulative community concerns, council analyses and reports, and repeated evacuations and dismal flood experiences. A concerted effort was made to mobilise the community through local leadership, but it was difficult to gain real traction until a major rainfall event in May 2023 coincided with a hui held to update residents about the project. Residents expressed their pent-up anger, frustration and anxiety about the severe risks they faced and lack of effective local government action. A new group, the Pūtiki Emergency Response Group, emerged to address these concerns and improve the community's emergency preparedness and response capacity.

The Pūtiki
Emergency
Response Group
continued to
progress its work
on multiple fronts
in partnership
with local
government,
Waka Kotahi and
other partners
and stakeholders,
within and beyond
the immediate
confines of Pūtiki's
residential
development.

Driven mainly by three community members endorsed by tangata whenua leadership and the community at large, the Pūtiki Emergency Response Group became the pivot around which locally-led risk reduction and adaptation efforts were mobilised. The most constructive way forward was for the Massey team to support the group and tangata whenua leadership as much as possible.

Agreement on how tangata whenua and local government, along with other potential partners, should work together emerged as pivotal for building a robust and enduring partnership to sustain locally-led adaptation. The Te Awa Tupua (Whanganui River Claims Settlement) Act 2017 had established the legal personhood of the Whanganui River and was the foundation for crafting the binding adaptation partnership agreement in Pūtiki. The Act was the first in the world to grant legal personhood to a river, and places the well-being of the awa at the

centre of any action affecting the Whanganui River and those it sustains. Te Heke Ngahuru guides implementation of this law: a values-based strategy which places hapū at the centre of decision making in Tiriti-based co-governance with local government and relevant stakeholders. Of fundamental importance are the values – Tupua Te Kawa – underpinning this legislation and strategy. These values were foundational for the indigenised memorandum of understanding – the Tākai Here – that was negotiated and signed to bind the Whanganui District Council, Horizons Regional Council and Waka Kotahi in partnership with the Pūtiki community for CbA planning. Massey University was a signatory to reflect the project team's brokering role in crafting the agreement. The Tākai Here is a 'living agreement' which not only guides the ongoing working relationship, but will be added to and refined as locally-led adaptation unfolds and circumstances change. Importantly, too, this Tākai Here affirms that CbA is an integral part of catchment-wide actions that extend from the mountains to the sea. In essence, the Tākai Here is the foundation stone of the Pūtiki CbA pact that will ultimately document the negotiated plans that partners develop, implement and reconfigure over time.

The Pūtiki Emergency Response Group continued to progress its work on multiple fronts in partnership with local government, Waka Kotahi and other partners and stakeholders, within and beyond the immediate confines of Pūtiki's residential development. This includes securing long-term plan funding to strengthen community-based emergency response capacity, and initiating master planning to address housing and associated papakainga needs over the next 30 years. With myriad activities underway, and capacity constraints across the board, it became infeasible to complete the envisaged adaptation pathways plan within the Deep South mid-2024 time frame. A high-level risk assessment and initial synopsis of adaptation prospects were completed, and key reflections shared with the community and with the Climate Change Joint Committee that had originally prioritised Pūtiki as a case study.

The Deep South and other government National Science Challenges were wound down in mid-2024. But, with the values-based Takai Here in place, the Pūtiki community had established a robust foundation and was well placed to lead ongoing adaptation work with the support of local government and Waka Kotahi and other stakeholders. Among other things, the Whanganui District Council, Horizons Regional Council and Waka Kotahi have continued to work closely with Pūtiki leadership and residents to better understand interactions between Whanganui awa flood risk and run-off-induced ponding due to water from surrounding hills. Technical investigations have looked further into flood defences and flood modelling to inform flood protection design and emergency management planning, with particular attention on avoiding worsening flooding of the Ngatarua stream. This work has helped to better align council and Waka Kotahi technical analyses of flood risk and response options, including drainage/culvert upgrades and future flood defence investigations for the benefit of Pūtiki residents.

The Takai Here institutionalises a co-governance framework founded on spiritual, cultural and ecological values that privilege nature- and community-based interventions and not just hazard-centred engineering solutions. Crucially, agreement on the Takai Here was not simply a 'lowest common denominator' compromise by governance actors on ways forward for CbA. Rather, this pact symbolises the transformation of long-standing contestation about Tiriti-centred governance related to the Whanganui River. The Te Awa Tupua legislation was transformative in establishing legal personhood for the river and the rights of nature. But it has also reconfigured governance interactions central to CbA, including bringing the authority, identity, voice and agency of mana whenua to the fore in local decision making, establishing values-based relationship building as foundational, and opening up opportunities for governance innovations (Cribb, Macpherson and Borchgrevink, 2024). Whereas conventional conflict resolution tends to focus on resolving immediate concerns and issues, conflict transformation explores ways to

In dialogue with project partners, it was decided to provide a plain-language synthesis of risk information and document Tangimoana Community Committee priority actions and concerns as a platform for future adaptation pathways planning.

fundamentally reconfigure governance interactions, including attitudes, interests and underlying societal structures that fuel persistent conflict (Tafon et al., 2022).

Tangimoana, Manawatū-Whanganui

Guidance by the Climate Action Joint Committee led to focused interaction with the Tangimoana Community Committee as the main forum representing at-risk residents and the local community. Such committees can struggle to represent community members effectively. Despite historically challenging and contentious community-council interactions, the Tangimoana Community Committee, the Manawatū District Council and Horizons Regional Council agreed to work together through this Deep South project. To this end, in November 2023 a statement of intent was signed to advance adaptation pathways planning. This signing was more than symbolic, because it signalled the unequivocal intention of community representatives and local government leadership to work together

in support of CbA.

Our team used a range of engagement methods to involve stakeholders in Tangimoana in this project. Despite these efforts, it proved very difficult to secure active and extensive resident participation. Additionally, hapū and iwi leaders were over-stretched and opted not to participate directly in the project, preferring to stay informed about progress. Nonetheless, the commitment by the Tangimoana Community Committee and the Manawatū District Council and Horizons Regional Council laid a strong foundation for assessing risk and adaptation planning.

Feedback was sought from residents about their risk perceptions and available risk information was synthesised. Some of the information shared with residents was perceived to be overly technical and difficult for lay people to comprehend. Property-level information about hazard exposure was considered important, but was not available in a format that could readily be distilled and made available. There was sensitivity about how to express vulnerability in a constructive and enabling manner. There was also reluctance to examine medium- to long-term responses, including managed retreat in the face of escalating climate-compounded risk. Ongoing difficulties were experienced in engaging residents to co-design an adaptation pathways plan. Paradoxically, resident interest in participating grew noticeably in the closing months of the project, at which point it was not feasible to complete the envisaged plan before mid-2024.

In dialogue with project partners, it was decided to provide a plain-language synthesis of risk information and document Tangimoana Community Committee priority actions and concerns as a platform for future adaptation pathways planning. A draft addendum to the statement of intent was prepared to synthesise community risk perceptions and list the committee's short-term concerns and priority actions. The document was signed by representatives of the Tangimoana Community Committee, the Manawatū District Council, Horizons Regional Council and Massey University (as the broker of the agreement) on 24 June 2024. This agreement reiterated the commitment to continue working together.

After the Deep South project ended, a Tangimoana Resilience Group, made up of three Tangimoana Community Committee members and representatives from the district council and regional council, was established. A refined risk assessment was prepared in mid-2025 and the Tangimoana Resilience Group is finalising an adaptation/resilience plan for distribution to residents by the end of 2025. Community and local government champions have been central to sustained progress. One member of our research team has continued to work as an independent, trusted ‘critical friend’, accountable to the Tangimoana Resilience Group, residents and governing authorities, and this has helped to sustain post-Deep South project progress. This work has included giving voice to children at Tangimoana School, whose projects and artwork portray what they love about the village, the perils faced, and how to future-proof the village. The children presented their work at a July 2025 community hui at which the Tangimoana Resilience Group gave a progress report, including a demonstration of a new computer-based hazard mapping tool which visualises different pluvial and fluvial flood scenarios under various sea level rise scenarios and vertical land movement over time.

Ten policy- and practice-relevant findings
Notwithstanding the distinctive features of each of the above experiences, this synopsis reveals overarching policy- and practice-relevant findings that can inform CbA in Aotearoa New Zealand. These findings were distilled through individual and collective critical reflection on each case study, and structured consideration of project-wide lessons through team workshops, project partner feedback, and reflexive thematic analysis of key informant interviews.

Community-based adaptation is a relationship-building process, rooted in trust

Community-based adaptation is stepwise and takes time. It centres on mobilised at-risk residents, with enabling community leadership and supporting partners in local government, tangata whenua, and others as appropriate. Community-based adaptation planning is more

Aligning adaptation planning and practice within and between territorial local authorities and regional councils is also key to enabling sustained community-based adaptation.

than a bureaucratic procedure with a narrow adaptation focus. History casts a long shadow over contemporary adaptation interactions. Building trusting relationships helps address concerns, needs and aspirations over time.

Build shared understanding about natural hazard risk, adaptation options and plausible pathways into the future

Sharing hazard information is necessary, but far from sufficient. Shared understanding about the ‘politics of adaptation’ enables joint problem solving and builds adaptive capabilities within and between governance actors, especially when mātauranga Māori, local knowledge, and robust science and professional expertise are carefully amalgamated. This understanding deepens and extends through sustained social learning that engages climate cynics and sceptics, as well as residents fearful of insurance premium increases or insurance withdrawal. Climate change is not merely a problem for future generations; it is a ‘now and forever’ challenge which manifests in more intense and frequent extreme weather events. These can be focusing events that mobilise political will and community

action to adapt, provided there is a foundation of shared risk understanding.

Prioritise those most exposed and vulnerable to climate-compounded risks

Risk is a product of exposure to natural hazards and social vulnerability. For too long, attention has centred on the hazard dimension of risk. Attention needs to shift to better understanding and addressing susceptibility to harm and building local adaptation capabilities. This requires understanding and addressing asymmetrical social relations, including how CbA is shaped by political struggles and the uneven distribution of power, equity and justice, and the implications for marginalised people, future generations, and the non-human realm. Clarifying adaptation governance roles and responsibilities from the national to the local level is vital – including national structures and processes for enabling just and equitable cost sharing, because adaptation costs are often beyond what local communities and their governing authorities can afford. The Crown therefore has a vital role to play in institutionalising Tiriti-led, just and equitable adaptation in fiscally responsible ways.

Local government support is foundational for community-based adaptation

This means prioritising strategic and long-term plan funding for CbA, as well as having dedicated staff support, community-specific liaisons, and championing by project sponsors, such as senior officials and elected members, to overcome inertia, climate change cynicism and denialism, short-termism and vested interests. Key to success is having staff and elected members actively involved through regular briefings, awareness raising and building shared understanding, supported by passionate adaptation champions. Aligning adaptation planning and practice within and between territorial local authorities and regional councils is also key to enabling sustained CbA. This means having consistent and complementary information on local hazards and vulnerability, as well as providing enabling and enduring support for locally-led adaptation planning. Working together through CbA helps to translate local government’s good intentions into lived reality.

Tangata whenua are foundational partners for community-based adaptation

In predominantly Māori communities, mana whenua should initiate and lead marae-, hapū- and iwi-based adaptation, with the support of other governance actors as appropriate, to enable tino rangatiratanga (self-determination). Under Tiriti obligations, the Crown needs to pay special attention to tangata whenua-led adaptation, given that Māori communities face widely divergent risks and the potential for severely unjust and inequitable outcomes. In predominantly Pākehā communities, tangata whenua are foundational Tiriti partners, along with local government, the Crown, and other locality-specific adaptation partners.

Community-based adaptation is best framed as pact making

Reframing adaptation as pact making is consistent with te Tiriti o Waitangi, and recognises that it is inherently political, inevitably conflict ridden, and advanced through conflict transformation, not merely hazard-centric technical analysis and lowest-common-denominator compromises. Commitments to work together, founded on agreed values and principles, need to be recorded as a statement of intent or memorandum of understanding that, if appropriate, should be indigenised. Signing an agreement is a moment to celebrate. But this is one step in an ongoing journey. This pact is the foundation for crafting and institutionalising an adaptation pathways plan or framework agreement that documents priority short-term actions and plausible pathways into the future, given the risks faced. This living agreement guides partners in how to work together and adapt as circumstances, needs and capabilities change over time.

Enduring community-based adaptation is enabled by institutionalised climate action partnerships

The above-mentioned framework agreement or pact needs to be mainstreamed into the strategic and tactical operations of every partner organisation. For example, the Manawatu-Whanganui region's Climate Action Joint Committee – a representative body of tangata whenua

The lack of a national adaptation framework and policy consensus are ... a very severe impediment to securing just and sustainable community-based adaptation in Aotearoa New Zealand.

and local government mayors and chief executives – prioritised the region's two case study communities with which the Massey Deep South team partnered, ultimately leading to signed local agreements to work together. These commitments did not falter at the end of the Deep South project but have continued into 2025 and likely beyond. Institutionalising CbA as pact making enables relevant governance actors to continue working together through inevitable change.

Institutionalising community-based adaptation is convoluted

CbA planning and implementation is not linear and sequential. Rather, it is an entangled mix of planning, action, reflection, adjustment, and yet more action, planning and so on. Moreover, CbA is intertwined with community development and mitigation efforts that together shape the trajectory of climate-resilient development – i.e., community development that advances justice, resilience and sustainability. It is not easy to reconcile community adaptation initiatives with formal local government procedures and tangata whenua processes and practices.

Among other things, the three-year election cycle can disrupt nascent, or even long-established, collaborative initiatives. In predominantly Māori communities, marae-, hapū- and iwi-led adaptation planning and action are vital, with outsider involvement dependent on trust and synchronising alignment with Māori priorities, interests and needs. The multi-level character of adaptation governance further complicates the institutionalisation of CbA.

Independent 'critical friends' can play a vital mediation and/or facilitation role in building adaptation partnerships, especially where there is a lack of trust
Independent intermediaries working as 'critical friends' – trusted 'outside-insiders' – can develop strong bonds with those involved in adaptation planning and can play a constructive brokering role. To fulfil this role, brokers need to have real-world experience and expertise in community engagement and conflict transformation, as well as adaptation governance. More generally, CbA proceeds at the pace it takes to build trust between governance actors. Short-term projects are seldom adequate for securing the foundational commitments necessary to establish collaborative partnerships and institutionalise CbA.

A cross-party, legislated national adaptation framework is imperative for empowering community-based adaptation planning and enabling just and equitable action by residents, local government and tangata whenua

The lack of a national adaptation framework and political consensus on climate policy are especially concerning, with escalating risk, rising insurance premiums and the prospect of insurance retreat after many years of government 'talk' about a climate adaptation Act. There is a clear need to share equitably the costs of adaptation interventions in a fiscally responsible manner. While an adaptation Act urgently needs to be promulgated to enable CbA, this will not be a panacea, given the imperatives outlined above that also must be addressed.

Conclusion

This research demonstrates that CbA is a relationship-building process – a

struggle that depends on building trust between partners founded on shared values and robust commitments to work together. Adaptation practice has proliferated in recent years. The lack of a national adaptation framework and policy consensus are, however, a very severe impediment to securing just and sustainable CbA in Aotearoa New Zealand. This self-evident imperative depends largely on resolving not if, but how, the Crown contributes public funding to ongoing adaptation and disaster recovery in turbulent times.

Our research spotlights a core recommendation: put at-risk residents and communities, supported by tangata whenua and local government and other potential enabling partners, at the centre of adaptation policy and practice. How might the ten key findings outlined here be applied in future adaptation policy and practice? Focus on building trust and forge robust values-based 'living agreements' that support locally-led adaptation pathways planning and action. Adaptation is ultimately a community-based, pact-making process which starts with mobilising a community, before proceeding to building shared understanding about risk, identifying plausible adaptation pathways, and negotiating ways to mainstream community adaptation

actions as an integral part of ongoing, reflexive adaptation and empowering community-based climate-resilient development.

Postscript

The government released its National Adaptation Framework on 16 October 2025 (see <https://environment.govt.nz/publications/national-adaptation-framework/>). Regrettably, the four-page, four-pillar framework raises more questions than it answers. First, better climate risk information is indeed a priority. Climate risk is a product of exposure to climate-compounded hazards by vulnerable populations or groups. The framework appears to conflate hazard and risk, as there is no mention of the necessity to better understand climate vulnerabilities and adaptation capabilities. Second, regarding roles and responsibilities, no mention is made of the central government's pivotal role in institutionalising just and equitable adaptation. Third, regarding risk reduction investment, the framework says nothing about nationally consistent provisions to prevent new development in localities highly exposed to climate-compounded hazards. Finally, regarding cost sharing, very few property owners can afford the adaptation interventions necessary

to contain climate risk. These concerns need to be resolved – preferably through further authentic independent advice on deepening and extending the National Adaptation Framework. Visionary political leadership is necessary to close the persistent adaptation lacuna and impasse. The starting point is comprehensive, well-designed legislation, with cross-party support, to institutionalise a Crown commitment to enable just and equitable community-based adaptation for generations to come.

¹ The Deep South National Science Challenge, focusing on climate change impacts, risks and responses, was one of New Zealand's collaborative research programmes aimed at addressing significant challenges facing the country (see <https://deepsouthchallenge.co.nz/>).

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