



UNDERSTANDING CLIMATE IMPACTS & ADAPTATION IN RURAL COMMUNITIES

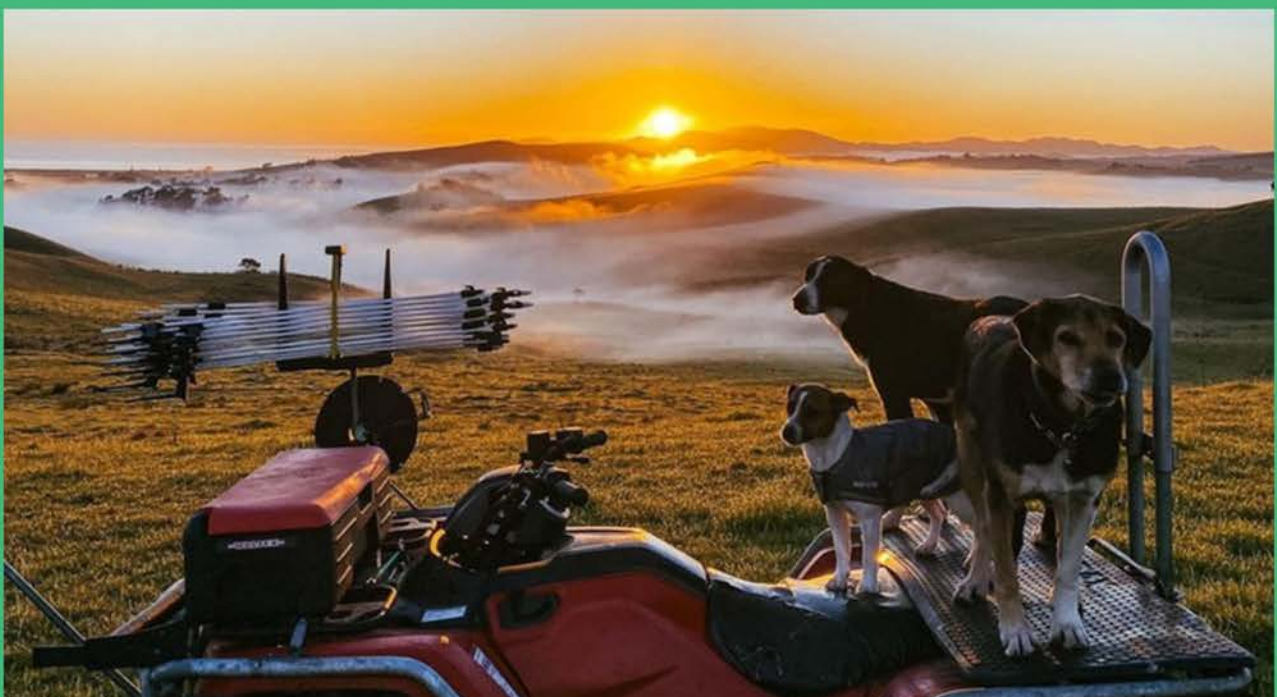
Climate Resilient Communities Project
Final Report - December 2025



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EXECUTIVE SUMMARY



The Climate Resilience Project was established to open a practical conversation with Northland's farmers and growers about how climate change is already affecting rural communities - and how we can strengthen resilience together. Supported by the Northland Regional Council's Climate Resilient Communities Fund, Rural Support Trust Te Tai Tokerau partnered with Beef + Lamb NZ, Horticulture NZ and Māori landowners and hapū to hear directly from people on the land.

Through a region-wide survey (200 respondents), ten workshops, and 61 follow-up interviews, we captured both data and lived experience. The findings show a sector that is practical, resilient, and ready to act: extreme weather is already disrupting operations, most farmers are adapting, confidence is mixed and financial and regulatory pressures remain significant. Strong networks and peer learning are central to how rural communities build resilience.

Across all sectors, farmers and growers are asking for practical, regionally tailored support that builds on what is already working at grassroots level.

This report brings those voices together to guide the next stage of Northland's climate-resilience planning - turning local insight into action.

INTRODUCTION



Northland's rural communities are already living with the realities of a changing climate. More intense rain events, longer dry spells, and shifting seasons are testing the resilience of our land, infrastructure, and people.

The Climate Resilience Project was initiated by **Rural Support Trust Te Tai Tokerau (RSTTT)** with support from the **Northland Regional Council (NRC)** to understand how farmers and growers are experiencing these changes, and to identify where our collective efforts can make the greatest difference.

The NRC Climate Resilient Communities Fund contract defines:

- Project grant: \$40,000 (NRC Climate Resilient Communities Fund)
- Project period: Feb–Nov 2025
- Project milestones: survey, sector workshops, and a final report
- Focus areas: Food (Te Kai), Water (Te Wai), Energy (Te Ngao), Nature-based (Te Taiao)
- Required reporting: number of stakeholders, summary of feedback, and measurable outcomes, tangible stories of resilience and future support needs.

The project aligns with NRC's four priority impact areas as part of our 'Planning for resilience (Ngā Mahi Whakamahere)' overall approach:



Food resilience
(Te Kai)



Water resilience
(Te Wai)



Energy resilience
(Te Ngao)



Nature-based
resilience (Te Taiao)

Our purpose has been simple but vital to our approach:

To initiate a constructive, farmer-led conversation about climate change in the rural sector - and to help the community decide where to focus efforts to build practical, lasting resilience.

This report summarises what we have learned so far and provides a foundation for continued collaboration between rural communities, NRC, and industry partners.

METHODOLOGY



This project combined both quantitative and qualitative methods to ensure that data and experience carried equal weight.

Data Source	Survey Type	Strength	Primary Contribution
Regional Survey (200 respondents)	Quantitative + Qualitative open-text	Breadth	Quantitative picture: % affected, major themes
Sector Workshops (10 x workshops - Beef & Lamb, Hort, Māori)	Qualitative group insights	Collective dialogue	Sector-specific adaptation of actions and shared needs
1:1 Phone Interviews (61 interviewees)	Qualitative individual narratives	Depth	Emotional tone, contextual details, and individual-level drivers/barriers

Together, these datasets create a triangulated view of rural climate resilience:

- The survey identified what is happening.
- The workshops revealed how groups respond collectively.
- The phone interviews explained why individuals think and act as they do.

METHODOLOGY



Data from all sources were analysed to identify common patterns, regional differences, and opportunities for action. The combination of numeric data, collective dialogue, and individual voice provides a rounded picture of rural resilience in Te Tai Tokerau.

REGIONAL SURVEYS

- Sample size: Over 200 respondents across dairy, beef, sheep, and horticulture, conducted in April 2025
- Explored climate impacts, adaptation actions, stress factors, and support needs.
- Included open-ended questions to capture local insight.

SECTOR WORKSHOPS

- Sample size: Delivered in partnership with Beef + Lamb NZ, Horticulture NZ and Māori hapu between September and November 2025.
 - Beef & Lamb included 113 participants across 4 workshops
 - Horticulture NZ included 99 participants across 4 workshops
 - Māori Sector included 25 participants across 2 workshops
- Workshops ran for at least 1hr, where participants were provided a one-page summary (workshop handout) on the survey results and a prompted discussion via a facilitator and powerpoint presentation.
- Participants discussed barriers, shared solutions, and prioritised next steps.
- Insights were grouped under NRC's four resilience areas.

1:1 PHONE INTERVIEWS

- Sample size: Follow-up calls with 61 farmers and growers
- Composition:
 - Horticulture: 6
 - Beef & Lamb / Mixed: 31
 - Dairy: 27 (some mixed with beef stock)
- Format: Open-ended, conversational responses (text fields) covering:
 - Farm type, size, and key challenges
 - Views on regulations, collaboration, and knowledge access
 - Mental wellbeing and coping mechanisms
 - Resilience actions already taken
 - Future priorities and funding needs
- This dataset provides depth of voice - personal stories and practical examples that deepen understanding of local realities; directly capturing farmers' words, attitudes, and coping strategies. It complements the workshops (collective focus) and the survey (quantitative baseline).

SURVEY FINDINGS



SURVEY FINDINGS



OVERVIEW

The regional survey was designed to take the pulse of Northland's rural sector - to understand how climate change is already affecting farm operations and where farmers see the greatest need for support.

Responses came from more than 200 participants representing dairy, beef and sheep, and horticulture. Together, their feedback paints a picture of a sector that is **aware, active, and pragmatic**, but also **under strain from increasing costs and regulation**.

Farmers are generally self supporting but knowing there is multi-sector support is a huge support.



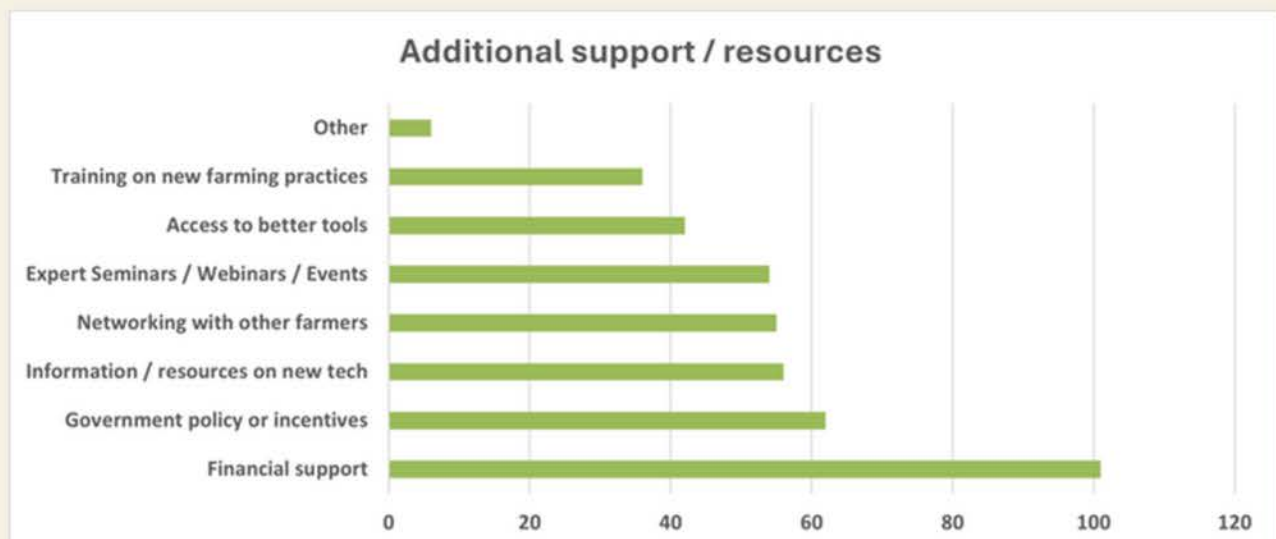
SURVEY FINDINGS



KEY QUANTITATIVE FINDINGS

The results confirm what many in the sector already sense day to day:

- **Extreme weather is now the norm:** Over 70% reported severe weather events disrupting business as usual on a regular basis.
- **Most are already adapting:** 80% have made on-farm changes such as improved drainage and infrastructure, feed planning, shelter planting, or backup power systems (generators etc) in the past three years.
- **Confidence about the future is mixed:** 58% feel “somewhat confident” they can adapt, while 25% are uncertain or pessimistic.
- **Regulatory complexity and financial pressure are the biggest frustrations:** Over 73% cited compliance costs or bureaucracy as major barriers.
- **Mental health and fatigue are common:** One in three farmers mentioned stress or anxiety linked to weather volatility or business uncertainty.
- **Farmers want shared, local solutions:** peer learning and on-farm demonstrations was a recurring theme.



SURVEY FINDINGS



QUALITATIVE INSIGHTS FROM OPEN COMMENTS

The open-ended responses brought feeling and authenticity to the data - showing that adaptation isn't just technical, it's emotional and community-based.

Farmers spoke about:

- **Practical adaptation:** "We've put in drainage and changed our stock rotations to handle the wet."
- **Community connection:** "Talking to others and seeing what's working helps more than any handbook."
- **Frustration and fatigue:** "The rules keep changing, and it feels like we're always catching up."
- **Innovation under pressure:** "Solar pumps and better water storage have been game changers."

These stories show a willingness to act and innovate - but also the need for **trusted, locally relevant support** to turn good ideas into sustained practice.



SURVEY FINDINGS

CROSS-SECTOR DIFFERENCES

While all groups face similar pressures, the nature of their challenges varies:

- Dairy farmers focus on infrastructure, effluent management, and energy reliability.
- Beef and sheep producers are more concerned with feed security, markets, and drought.
- Horticulture growers emphasize water access, crop diversification, and soil health.

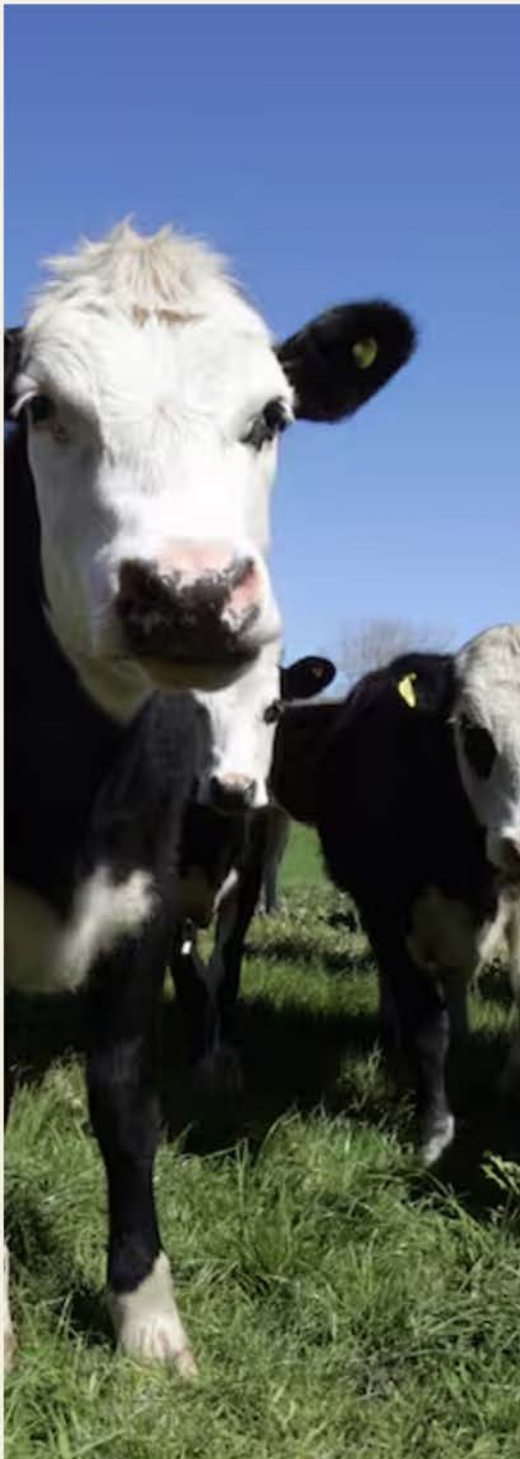
Despite these differences, the shared call for practical, regionally tailored support runs consistently across all sectors.



WORKSHOP FINDINGS



WORKSHOP FINDINGS



OVERVIEW

The sector workshops deepened the survey picture by bringing farmers, growers and Māori landowners together to discuss climate impacts face-to-face.

Across ten workshops held with Beef & Lamb, Horticulture NZ, Māori landowners and hapū groups, the conversations revealed a **strong practical mindset**, clear **regional priorities** and a **shared willingness to learn** from one another to strengthen resilience.



Stress, uncertainty and fatigue could be reduced by discussion groups, community dinners & resurrecting farm tours.

WORKSHOP FINDINGS



WHILE EACH SECTOR FACES ITS OWN PRESSURES,
FOUR THEMES ROSE CONSISTENTLY:

Climate impacts are already reshaping operations	Farmers described increasingly unpredictable weather - heavy rain, slips, prolonged wet periods and summer dry spells - consistent with survey findings showing over 70% experiencing frequent disruption. Workshops added detail: flooded culverts, damaged tracks, crop losses, animal health pressures, and the emotional fatigue of "one event after another."
Adaptation is happening everywhere - but often in isolation	Across sectors, farmers are already improving drainage, maintaining culverts and tracks, installing solar and generators, planting riparian areas, stabilising erosion sites, diversifying crops and increasing feed and water storage. These actions mirror the 80% of survey respondents who have made on-farm changes. However, many adaptations are happening in isolation, with farmers wanting clearer ways to learn from neighbours are successes.
Financial pressure and regulation remain major constraints	Compliance costs, shifting rules and complex regulatory expectations were major sources of frustration, reinforcing survey findings where 73% cited regulation or financial pressure as key barriers. These pressures, combined with repeated weather events, contribute to stress, fatigue and widespread concern about mental wellbeing.
Strong appetite for practical, local, peer-based learning	The most consistent workshop theme was a preference for hands-on learning: local field days, demonstrations and examples from farmers who have already made changes. Participants value trusted organisations - RSTTT, KMR, Beef + Lamb NZ, HortNZ - and want regionally relevant advice, especially on water, soils and energy. This aligns with the survey's call for shared, local solutions and peer-learning opportunities.

WORKSHOP FINDINGS



BEEF & LAMB



Across the four sessions (around 95 participants in total), farmers consistently expressed pragmatic, regionally grounded priorities.

Discussion themes mirrored the six survey findings, but added clear, solution-oriented ideas and requests for peer learning, locally relevant research, and stronger support networks.



WORKSHOP FINDINGS



COMMON THEMES

Climate events are business realities, not future risks.

Most participants cited droughts, floods, or Cyclone Gabrielle as having already reshaped their operations. Farmers view adaptation as a daily necessity, not a long-term scenario exercise.

Adaptation is occurring, but often in piecemeal fashion.

Drainage upgrades, shade planting, generators, feed storage, and alternative energy solutions were common responses. While many are taking action, few have formalised resilience plans - highlighting the opportunity for more structured learning and preparedness programmes.

Trusted relationships matter.

Knowledge exchange and trusted networks - particularly Beef & Lamb focus groups, Rural Support Trust, Northland Regional Council, and Kaipara Moana Remediation - were valued far more than top-down directives. Facilitators noted how these organisations connect farmers to subject-matter experts and funding, ensuring continuity and local relevance.

A cautiously improving economic context.

Falling interest rates and record-high livestock prices were giving short-term relief. Farmers reported that improved commodity returns, even modest wool recovery, and industry advocacy pushing back against government pressures have helped restore confidence and reduce stress.

Learning from adversity.

There was strong recognition of the need to learn from past weather events - identifying vulnerable parts of farms and planning ahead for protection or reinforcement. Participants highlighted the importance of practical education and bringing research and scientists to Northland to address regional challenges.

Mental wellbeing is tied to social connection.

Small local gatherings, collaboration dinners, and humour-based events such as Bitches Box or Bark-Up were described as essential for reducing isolation and building trust. Rural Support Trust's leadership in organising inclusive, community-based events were widely appreciated for keeping morale strong and networks connected.

WORKSHOP FINDINGS



ANALYSIS BY NRC PRIORITIES



Food resilience
(Te Kai)

- Feed and fodder security: Silage production, community sharing of feed reserves and early contracting for supplementary feed.
- Diversification: Some participants are shifting or buying maize blocks to buffer against drought and price shocks.
- Market coordination: Calls for collective approaches to understand processor requirements and use forward contracting options to avoid forced stock disposal during climate shocks.



Water resilience
(Te Wai)

- Drainage upgrades and water-way plantings were frequent responses in both Kerikeri and Taporā workshops.
- Farmers reported clearing drains, maintaining culverts, reshaping tracks and improving flood-prone areas.
- Kaipara Moana Remediation (KMR) schemes were highlighted as trusted, well-resourced partner for water-quality and catchment work.



Energy resilience
(Te Ngao)

- Solar energy was a breakout topic: interest in education on solar feasibility, shared solar infrastructure and links to Electrify Te Tai Tokerau initiatives.
- Farmers also mentioned generators, battery systems and bank solar-loan options.
- Energy reliability during storms is increasingly viewed as a core climate-risk issue for livestock operations.



Nature-based
resilience (Te Taiao)

- Strong emphasis on tree planting for shade, shelter and erosion control - supported by NRC and other existing schemes.
- Farmers recognised soil health and pasture resilience as key, though less explicitly discussed in Beef & Lamb groups.
- Natives and poplars were commonly referenced as preferred species for erosion-prone areas.

WORKSHOP FINDINGS



IMPLICATIONS & OPPORTUNITIES



1. Strengthen practical, locally led extension

Farmers want to see real examples and learn from peers who have trialled solutions.

Opportunity: Invest in farmer-led demonstration days, resilience field tours and a network of “champion farms” showcasing drainage, feed systems, water storage, soil practices and energy setups suited to Northland.

2. Scale catchment-based water resilience

Drainage and slip management are ongoing priorities across hilly and flood-prone areas.

Opportunity: Align NRC and KMR efforts to deliver integrated catchment support - combining drainage upgrades, riparian planting, sediment control and tailored advice for high-risk landscapes.

3. Accelerate renewable energy readiness

Storm-related outages pose operational risks for livestock systems.

Opportunity: Provide solar and battery feasibility tools, promote generator-readiness checks and explore shared or community-scale solutions for remote farming areas.

4. Improve market visibility and risk-planning tools

Farmers want clearer processor signals and tools to manage climate-driven disruptions.

Opportunity: Partner with processors, banks and Beef + Lamb to strengthen regional market intelligence, encourage forward-contracting, and support collective event-response planning.

5. Reduce compliance pressure through simpler guidance

Regulatory fatigue is a major barrier to adaptation.

Opportunity: Offer plain-language rule summaries, simple templates and a coordinated advisory pathway linking farmers with NRC, RSTTT and industry groups.

6. Recognise mental wellbeing as resilience infrastructure

Community connection is a critical buffer during periods of stress.

Opportunity: Support RSTTT-led initiatives such as community dinners, Brunch on Us and small local events that help farmers stay connected.

7. Grow region-specific science and innovation

Farmers want applied knowledge suited to Northland's warm, wet climate.

Opportunity: Host climate field days with soil, pasture and hydrology experts and support Northland-specific trials of pasture mixes and erosion-control methods.

WORKSHOP FINDINGS



MĀORI LANDOWNERS AND HAPŪ GROUPS

The two Māori climate resilience wānanga (approx. 25 participants) offered a perspective that is both aligned with wider rural sector experience and uniquely grounded in Te Ao Māori. While Māori landowners face the same climate impacts as other farmers and growers, their responses are shaped by whakapapa, collective ownership, cultural values and intergenerational responsibility. Discussions emphasised that resilience is not only technical or environmental, but deeply connected to identity, wellbeing and the relationship between people and the whenua.

Participants highlighted opportunities for climate action, but also structural challenges linked to governance, capital access, succession and decision-making across multi-owner blocks. There was strong interest in practical solutions - fencing waterways, water storage, soil knowledge, pest control - alongside calls for better access to information, funding clarity, and culturally grounded support.



WORKSHOP FINDINGS



MĀORI LANDOWNERS AND HAPŪ GROUPS COMMON THEMES

Resilience is holistic and grounded in whakapapa

Participants consistently described climate resilience as connected to who we are, not only what we do. The whenua has its own genealogy, history and mauri; therefore, climate solutions must honour cultural relationships, tikanga and intergenerational wellbeing.

Multi-owner Māori land creates unique governance challenges

Complex ownership, succession processes and communication across trust boards slow down decision-making and restrict access to capital. Many noted difficulty completing whole-of-farm improvements when different shareholders have different priorities or levels of engagement.

Practical climate impacts mirror other sectors - but with higher vulnerability

Flooding, slips, erosion, pasture decline, pest pressure and water access challenges were widely discussed. On many Māori land blocks, these impacts compound existing underinvestment following historical land loss or long periods of minimal development.

Deep appetite for wānanga, knowledge-sharing and culturally appropriate support

Participants would like to see:

- More wānanga on soil, fire management, diversification and water storage
- Plain-language guidance on the ETS, carbon markets and funding pathways
- Better access to NRC, MPI, TPK, RSTTT and Beef & Lamb NZ specialists
- A central “one source of truth” knowledge hub for Māori whenua

Strong interest in practical adaptation

Actions already underway or desired include fencing and riparian planting, taonga species for erosion control, solar installations, eco-sourced native nurseries, pest management and long-term water storage (‘water is a taonga’).

Additional insights

These reflect perspectives that may indicate wider challenges, even if not universally agreed upon.

Support needed for landowners to undertake internal assessments to help reorganise farming spaces and consider the best use of their lands. This could involve retiring highly erosive areas or creating additional buffers to waterways, while addressing compliance with local rules. Landowners often struggle to access capital for development and current farming areas may not be best suited for long-term environmental goals. With high farming costs, tight returns, and increasing legislation, voluntarily retiring land is difficult unless offset by creating new space. Support to map and implement these changes could make properties more naturally resilient.

WORKSHOP FINDINGS



MĀORI LANDOWNERS AND HAPŪ GROUPS ANALYSIS BY NRC PRIORITIES



Food resilience
(Te Kai)

- Diversification interest (rongoā species, taonga crops, regenerative practices).
- Recognition that commercial outcomes must be balanced with cultural values.
- Workforce challenges and capacity constraints limit some farm development.



Water resilience
(Te Wai)

- Water storage is the top priority for most participants ('water is a taonga').
- Support needed for flood management, culvert sizing, willow removal, riparian fencing.
- Many Māori blocks struggle to complete staged water projects due to inconsistent funding cycles.



Energy resilience
(Te Ngao)

- Interest in solar arrays, especially on retired or marginal land.
- Opportunities to reduce operational costs and increase self-sufficiency.
- Need for unbiased advice on feasibility and financing options.



Nature-based
resilience (Te Taiao)

- Strong cultural alignment with native planting, biodiversity and kaitiakitanga.
- Growing concern about pasture resilience on Māori land and desire for locally suited species.
- Taonga species used for erosion control and coastal protection.

WORKSHOP FINDINGS

MĀORI LANDOWNERS AND HAPŪ GROUPS IMPLICATIONS & OPPORTUNITIES

1. Culturally grounded engagement is essential.

Māori resilience initiatives should begin with whakapapa, tikanga and the story of the whenua - not only climate impacts.

2. Create a Māori-facing information platform.

Participants called for a “one source of truth” hub where Māori landowners can access hydrology, soil maps, funding pathways and support contacts.

3. Invest in long-term water storage solutions.

This is the highest-impact, strongest-mandate action across all Māori engagements.

4. Enable staged projects for Māori land.

Many blocks need multi-year support, not one-off funding windows, due to governance realities.

5. Support Māori workforce and rangatahi pathways.

Field days, training, contracting crews for planting and fencing and hands-on skill development, provided locally, were seen as desirable.

6. Build partnerships, not programmes.

Participants want NRC, MPI, TPK, RSTTT and Beef & Lamb NZ to collaborate more closely, sharing knowledge on-farm and in wānanga.

“

We take a holistic approach -
we're not just farm focused

”

WORKSHOP FINDINGS



HORTICULTURE NZ



Horticulture growers across Te Tai Tokerau express 'innovation under pressure' - adapting rapidly to climate variability but constrained by cost, compliance and infrastructure.

We hosted 4 workshops in Dargaville, Whangārei, Kerikeri and Pukenui with 99 participants.



WORKSHOP FINDINGS



COMMON THEMES



Diversification and infrastructure upgrades are widespread resilience strategies

Growers are trialling new crop types (including sub-tropical and quick-maturing varieties) and shifting vulnerable blocks to more sheltered sites. Many are also investing in drainage, shelterbelts and water-storage improvements as practical climate-adaptation measures.

2. Compliance and cost barriers dominate discussion in the Far North

Growers frequently highlighted the burden of high consent costs, complex paperwork and ongoing compliance requirements. These administrative and financial pressures often limit their ability to implement new resilience initiatives.

3. Energy and water resilience are high-priority adaptation areas

Power outages pose immediate risks to irrigation, cooling and orchard operations, leading to strong interest in solar, batteries and generators. Water access and storage remain critical, particularly in the Far North where consents and infrastructure costs are significant barriers.

4. Mental wellbeing links strongly to administrative fatigue and workforce instability

Growers described feeling stretched by the combined pressures of compliance, staffing gaps and weather-related disruptions. These operational strains contribute to ongoing stress and reduced capacity for long-term planning.

5. Peer-learning appetite remains strong - growers want practical examples, not policy talk

Across all workshops, growers emphasised a preference for hands-on learning through orchard walks, demonstrations and real case studies. They value local, applied examples over high-level policy discussion.

WORKSHOP FINDINGS



ANALYSIS BY NRC PRIORITIES



Food resilience
(Te Kai)

- Crop diversification featured at every workshop, including interest in quick-maturing or sub-tropical varieties (pineapple, avocado, passionfruit, watermelon).
- Growers reported post-event adaptation such as repairing fencing, rehousing vulnerable blocks and relocating crops to more sheltered sites.
- Local markets and shorter supply chains were described as emerging resilience mechanisms.



Water resilience
(Te Wai)

- Drainage and irrigation upgrades dominated discussions: clearing roadside drains, maintaining tile drains, constructing storage ponds and installing gravity-fed systems.
- Water access constraints were a major issue in the Far North; resource consents cost \$15–20k and long processing times.
- Several growers noted that water scarcity, not climate willingness, was the limiting factor for expansion and adaptation.



Energy resilience
(Te Ngao)

- Solar power and battery systems were consistently cited, often through Farmlands/Flex partnerships or Electrify Te Tai Tokerau.
- Generators and Li-ion tools are used to maintain continuity during outages; many growers monitor “outage maps” to plan staff rosters and irrigation schedules.
- Power unreliability was widely described as a climate vulnerability affecting fruit quality, cooling systems and workplace safety.



Nature-based
resilience (Te Taiao)

- Soil and biodiversity management are rising priorities: growers are trialling sward variations and reducing spraying to encourage beneficial insects.
- Some participants are experimenting with biological controls, such as proto-carnivorous passiflora foetida.
- Previously undervalued sandy soils (e.g., Pukenui) are now recognised as “elite” sub-tropical horticulture zones in a warming climate; and are now looking at NSW farming practices.
- Tree and shelter-belt management continue to be important, supporting both climate resilience and grower wellbeing.

WORKSHOP FINDINGS



IMPLICATIONS & OPPORTUNITIES



1. Deliver practical, region-specific extension for growers

Growers want focused, Northland-relevant support - not generic advice.

Opportunity: Invest in demonstration orchards, diversification trials and regular orchard walks showcasing locally suited soil, crop, and biodiversity practices.

2. Make water access and storage easier and more affordable

Water scarcity and consent barriers limit adaptation.

Opportunity: Pilot a Northland Water Access Programme to simplify consents, improve aquifer mapping and co-fund on-farm storage infrastructure.

3. Build reliable, low-carbon energy systems for horticulture

Power outages disrupt irrigation, cooling and operations.

Opportunity: Support a Horticulture Energy Transition package with solar/battery feasibility tools, generator readiness and cost-benefit guidance.

4. Reduce administrative load to support resilience

Compliance requirements absorb significant time and energy.

Opportunity: Provide plain-language templates and simple digital tools to streamline GAP, H&S and administrative obligations.

5. Strengthen workforce pipelines and stability

Reliable labour is essential but increasingly difficult to secure.

Opportunity: Partner with training providers to develop a Green Careers Northland pathway focused on horticultural skills and seasonal workforce development.

6. Increase access to region-specific science and innovation

Growers want more local trials and applied research.

Opportunity: Establish a Northland Resilience Science Hub linking NRC, HortNZ, NorthTec and researchers to test locally relevant climate-adaptation methods.

7. Support community connection as part of grower resilience

Social connection remains a critical buffer against stress.

Opportunity: Fund regular Resilience Roundtables and informal events to maintain peer support and wellbeing.

PHONE INTERVIEW FINDINGS



PHONE INTERVIEW FINDINGS



OVERVIEW

The 61 phone interviews provided a deeper, personal view of how climate change is affecting farmers and growers across Te Tai Tokerau.

These conversations captured the day-to-day realities behind the survey numbers and workshop themes - including **emotional strain, practical workarounds**, and **the supports people value most**.

The phone data also strengthens the overall sector picture, particularly for dairy, which did not have a dedicated workshop.



Anything that encourages people to learn and develop skills and confidence [is a good idea].

PHONE INTERVIEW FINDINGS



COMMON THEMES

Adaptation is already widespread and highly practical	Farmers described extensive on-farm changes: drainage improvements, culvert clearing, riparian planting, erosion control, feed storage, crop diversification and backup-energy systems. These actions reflect consistent, hands-on resilience work across all sectors.
Economic pressure and regulatory fatigue are major stressors	Respondents frequently raised frustration with compliance obligations, shifting rules and the time required to meet regulatory expectations. While some expressed acceptance, many felt these pressures reduce capacity for climate planning.
Community connection and trusted relationships matter	Farmers emphasised the value of RSTTT, kitchen-table conversations and local peer networks. Respondents repeatedly requested more targeted research and technical visits from experts who understand Northland's conditions.
Mental wellbeing is strained but handled pragmatically	Stress, fatigue and weather-related anxiety were common, but often framed with a practical mindset: "keep calm and carry on," or "talk to family." Respondents saw wellbeing as intertwined with everyday farm work rather than a separate issue.
Desired supports are practical and region-specific	Most requests focused on funding for water infrastructure, fencing and erosion control; skilled labour or planting crews; practical workshops; digital or technical guidance; and drought-buffering measures such as feed reserves.

PHONE INTERVIEW FINDINGS



ANALYSIS BY NRC PRIORITIES



Food resilience
(Te Kai)

- Feed security is an ongoing concern, particularly during long wet periods or drought.
- Farmers want support for feed planning, locally adapted forage species and tools for better stock management during climate shocks.



Water resilience
(Te Wai)

- Drainage and flood management were the most frequently mentioned actions.
- Water storage and fencing waterways remain high-priority needs across all farm types.
- Respondents highlighted the cost and complexity of upgrading water systems.



Energy resilience
(Te Ngao)

- Backup generators are widespread, especially on dairy farms.
- Interest in solar and battery systems is growing, but many want clearer financial guidance.
- Energy continuity is now viewed as essential infrastructure for climate resilience.



Nature-based
resilience (Te Taiao)

- Riparian planting, poplars and native species are used to stabilise land and reduce erosion.
- Some growers are testing biodiversity-enhancing practices such as sward diversification or reduced spraying.
- Farmers want plain-language guidance on effective, Northland-appropriate nature-based solutions.

PHONE INTERVIEW FINDINGS

IMPLICATIONS & OPPORTUNITIES

1. Invest in practical, locally tailored resilience solutions

Farmers want hands-on guidance, on-farm visits and advice based on Northland's climate, soils, and landscapes.

2. Prioritise water infrastructure and soil-stability support

Funding for drainage, riparian work, erosion control and water storage would directly address the most common issues raised.

3. Strengthen access to technical expertise and region-specific research

Respondents want scientists, advisers and SMEs "on the ground" to demonstrate workable solutions.

4. Simplify compliance navigation

Clearer templates, plain-language summaries and coordinated guidance across agencies would reduce fatigue and free up resilience capacity.

5. Support community connection as a resilience tool

RSTTT events and small local gatherings remain critical for mental wellbeing and information-sharing.

“

Community BBQs have been really good - helps to cheer us up a bit.

”

PHONE INTERVIEW FINDINGS



DAIRY SPOTLIGHT

With no dedicated dairy workshop, 27 phone interviews provide the clearest view of dairy-sector climate resilience. Dairy responses were more operationally specific than other sectors, reflecting the daily demands of milking schedules, effluent systems and energy reliability.

KEY THEMES

- **Infrastructure upgrades** are common: drainage, culverts, races, effluent systems and feed pads.
- **Energy continuity** is a major vulnerability; most farms now rely on backup generators.
- **Financial pressure and compliance** (especially effluent and H&S) weigh heavily.
- **Wellbeing concerns** are common due to workload intensity and weather-driven disruptions.



PHONE INTERVIEW FINDINGS

DAIRY SPOTLIGHT ANALYSIS BY NRC PRIORITIES



Food resilience
(Te Kai)

- Feed availability and pasture damage drive interest in feed pads, feed reserves and rotations that reduce pressure in wet conditions.



Water resilience
(Te Wai)

- Effluent management and drainage were the most significant concerns; many want help to upgrade or future-proof systems.



Energy resilience
(Te Ngao)

- Generators are essential and interest in solar is rising, but farmers want clarity on cost-benefit and financing options.



Nature-based resilience
(Te Taiao)

- Riparian planting and erosion control continue steadily; some dairy farmers are exploring regenerative approaches.

DAIRY SPOTLIGHT IMPLICATIONS & OPPORTUNITIES

- Support for **drainage, effluent upgrades, and water resilience** would have high impact
- Provide **energy-resilience guidance** (solar, battery, generator readiness).
- Deliver **practical, dairy-specific field days** on pasture resilience and infrastructure.
- Maintain strong **RSTTT engagement** for wellbeing and local support.

SECTOR LEADERSHIP PERSPECTIVES



SECTOR LEADERSHIP → PERSPECTIVES



OVERVIEW



The Beef + Lamb Council workshop provided a strategic, system-level perspective on climate resilience across the sheep and beef sector.

Unlike the farmer workshops, which focused on day-to-day operational impacts, the Council discussions highlighted broader industry settings, extension needs, sector coordination and the importance of well-resourced support systems.

Their insights emphasise that Northland is at the forefront of climate change impacts - and that extension, forecasting and cohesive leadership will determine how effectively the region adapts.

Rural Support
has really stepped
into a new mode,
are delivering a
bigger footprint and
having a far more
reaching impact.

SECTOR LEADERSHIP PERSPECTIVES



Common Themes	Key Insights	Strategic Implications	Opportunities for NRC & Partners
Extension & Farmer Engagement	Strong support for on-farm field days, focus groups and the Resilient Pastures Project. Effective extension seen as essential for region-wide adaptation.	Northland needs a coordinated, well-resourced extension ecosystem to accelerate adoption of resilient practices.	Partner with Beef & Lamb NZ, RSTTT, KMR to deliver field days, demo farms, champion networks, and climate-resilience workshops.
Community Wellbeing	RSTTT's care packages, community dinners and Brunch on Us are highly valued. build cohesion.	Wellbeing initiatives are core resilience infrastructure, not add-ons.	Support ongoing RSTTT initiatives and embed wellbeing as a pillar of climate resilience programmes.
Land & Water Programmes	KMR and NRC fencing programmes viewed as impactful and long-term investments in land care and water quality.	Ongoing, consistent support yields high ROI for erosion control, sediment reduction and farm-system resilience.	Scale catchment-based projects with KMR; co-invest in fencing, riparian work and marginal-land restoration.
Information, Forecasting & Market Signals	Need for more reliable weather forecasting and clearer processor communication about market conditions.	Better forecasting and market intelligence reduce risk and improve planning under climate variability.	Partner with NIWA, MetService, processors to deliver region-specific climate and market updates.
Industry Advocacy & Leadership	Importance of strong leadership and sector advocacy highlighted, especially during regulatory change.	Coordinated advocacy helps maintain farmer confidence and ensures practical, workable regulations.	Maintain industry-NRC dialogue; support farmer-led positions in climate and land-use planning.

COMBINED
INSIGHTS



COMBINED INSIGHTS



BRINGING THE CONVERSATIONS TOGETHER

The workshops, phone interviews and survey results tell a consistent story:

Northland's rural sector is already adapting to a changing climate - but the pace and pressure of change are stretching people, infrastructure, and support systems.

While each data source offered something different (survey = breadth, workshops = collective voice, phone interviews = individual experience), together they reveal how farmers and growers are thinking, coping and collaborating across the region.

Across Beef & Lamb, Horticulture, Dairy and Māori landowners, the same message emerged clearly:

Resilience in Te Tai Tokerau is built from the ground up -
practical, local and strengthened by community.

COMBINED INSIGHTS



KEY THEMES ACROSS SECTORS CONT.

Category	Beef & Lamb	Horticulture NZ	Dairy	Māori Landowners & Hapū
Climate impacts most discussed	Slips, saturated soils, track damage, prolonged wet periods	Flooding, waterlogging, humidity affecting fruit quality, storm damage	Wet conditions impacting effluent systems & pasture, power outages affecting milking	Floods, slips, erosion, pasture decline; impacts compounded by historic underinvestment
Most common adaptation actions	Drainage upgrades, culverts, riparian planting, poplar planting, feed planning	Drainage works, irrigation adjustments, shelterbelts, crop relocation, diversification	Drainage & effluent upgrades, feed pads, generator installation, riparian planting	Water storage ('water is a taonga'), fencing waterways, native planting, pest control, soil knowledge
Top resilience priorities	Extension, water management, community wellbeing	Water access & consents, energy reliability, soils & biodiversity	Energy continuity, effluent compliance, drainage & feed resilience	Water storage, governance support, whenua-led planning, soil & biodiversity knowledge
Biggest barriers	Regulatory burden, cost pressures, fatigue, variable forecasting	High consent costs, labour shortages, administrative load (GAP, H&S)	Compliance (especially effluent), labour pressure, cost of infrastructure	Governance complexity (multi-owner land), capital access, inequitable systems, compliance processes
Energy resilience	Strong interest in solar; ongoing reliance on generators	Solar widely adopted; outages disrupt irrigation/cooling	Generators essential; growing interest in solar/battery	Solar on retired land; desire for independent advice

COMBINED INSIGHTS



KEY THEMES ACROSS SECTORS

Category	Beef & Lamb	Horticulture NZ	Dairy	Māori Landowners & Hapū
Water resilience	Strong drainage focus; slip management; trusted relationship with KMR	Major water-access issues in Far North; high consent costs; storage investment	Effluent & drainage challenges are top risks	Water as taonga; storage is the highest shared priority
Nature-based resilience	Shade trees, erosion control, riparian planting	Biodiversity plantings, sward variation, biological controls	Riparian planting, shelterbelts	Taiao lens: kaitiakitanga, taonga species, eco-sourced plants
Wellbeing & community themes	High value on RSTTT events; stress from regulation + weather	Administrative fatigue; labour instability; orchard tours valued	Fatigue from workloads & compliance; isolation for single-operator farms	Holistic wellbeing (whānau, whenua, identity); desire for wānanga and collective support
Preferred learning style	Practical, peer-based, local demonstration	Orchard walks, demos, applied case studies	Dairy-specific, on-farm technical sessions	Wānanga, hands-on learning, culturally grounded knowledge
Trusted organisations	RSTTT, Beef & Lamb NZ, KMR, NRC	RSTTT, HortNZ, Northland Inc, technical SMEs	RSTTT, DairyNZ, Beef & Lamb NZ, NRC	RSTTT, Beef & Lamb NZ MAB, NRC, TPK, iwi & hapū networks
Overall mindset	Pragmatic, communal, solutions-focused	Innovative but stretched by admin and labour costs	Practical and infrastructure-driven	Intergenerational, stewardship-focused, solutions grounded in whakapapa

COMBINED INSIGHTS

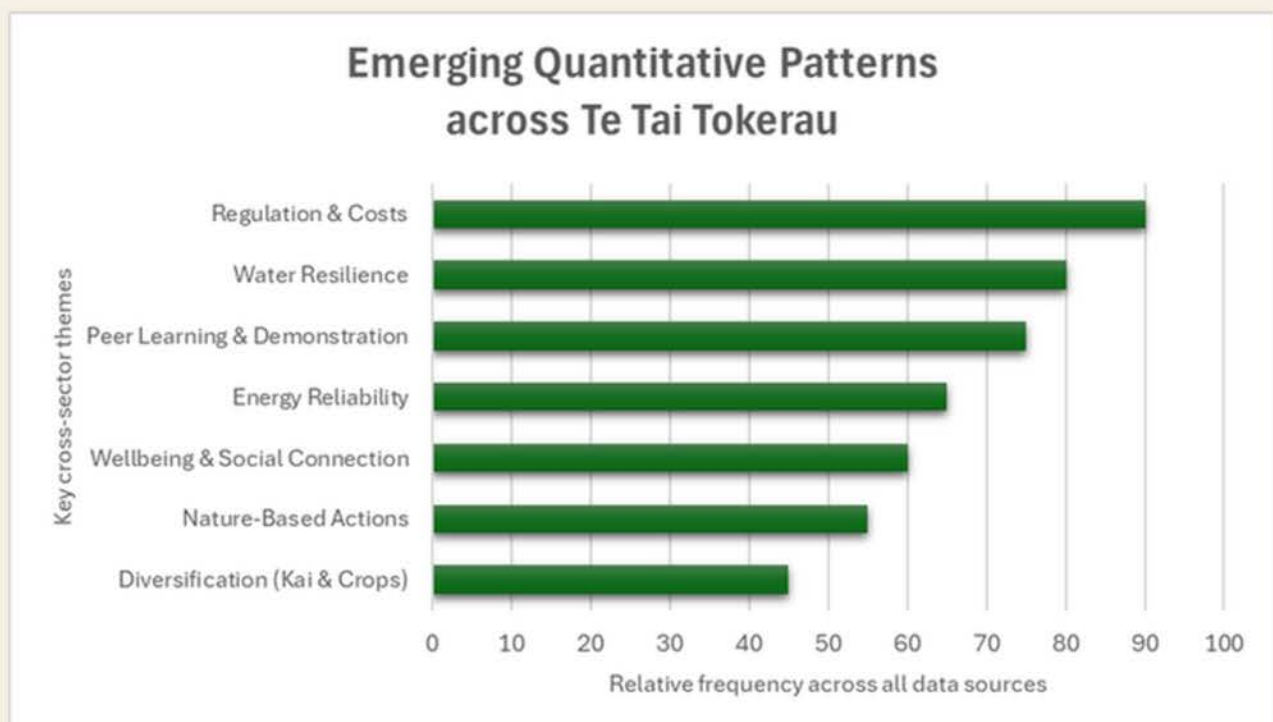


INTERPRETATION OF PATTERNS

Across all data sources - survey, workshops and phone interviews - the same four patterns repeatedly appear:

- **Regulation and cost pressures are the most consistently raised barriers**, limiting capacity for long-term planning.
- **Practical adaptation is widespread and largely self-driven**: drainage, solar, feed planning, diversification, planting and water storage.
- **Wellbeing and community connection are critical resilience factors**, with high value placed on support from RSTTT, local networks and informal events.
- **Peer learning is a major driver of change**, with farmers wanting to see working examples, hear real stories and learn locally.

While each sector has nuance (Horticulture emphasises consents and infrastructure; Beef & Lamb emphasise community and extension; Dairy emphasises energy continuity and effluent systems), the themes are remarkably aligned across the region.



COMBINED INSIGHTS



INTEGRATED INSIGHTS BY NRC PRIORITIES



Food resilience
(Te Kai)

What we heard:

Farmers and growers are actively building feed and food-system resilience through diversification, supplementary feed planning, improved rotations and exploring new crop types suited to Northland's climate. Māori participants emphasised intergenerational approaches to kai security, linking food production to whenua, whakapapa and collective stewardship.

Cross-cutting factors:

- Feed pressure during extreme wet/dry periods
- Labour shortages in horticulture
- Desire for localised crop trials and farmer-led case studies



Water resilience
(Te Wai)

What we heard:

Water was the strongest shared priority across all methods. Farmers described extensive drainage work, culvert upgrades, slip management and riparian planting. Growers stressed water scarcity and consent barriers, especially in the Far North. Dairy farmers highlighted effluent challenges under extreme rainfall. Māori workshops reinforced water as a taonga - becoming a symbolic framing for storage investment.

Cross-cutting factors:

- High infrastructure costs
- Inconsistent access to hydrology and aquifer data
- Trust in KMR and NRC-supported planting programmes

COMBINED INSIGHTS



INTEGRATED INSIGHTS BY NRC PRIORITIES CONT.



Energy resilience
(Te Ngao)

What we heard:

Energy reliability is now widely recognised as a climate risk. Solar interest is increasing across sectors, paired with heavy reliance on generators (especially in Dairy). Outages disrupt milking, irrigation, cooling and post-harvest operations.

Cross-cutting factors:

- Financial uncertainty about solar ROI
- Desire for independent advice
- Interest in community-scale or shared systems



Nature-based resilience
(Te Taiao)

What we heard:

Across the data, farmers and growers are actively investing in erosion control, tree planting, shelterbelts and biodiversity improvements. Māori wānanga added depth here - emphasising kaitiakitanga, taonga species and nature-based resilience rooted in the mauri of the whenua.

Cross-cutting factors:

- Soil health concerns rising
- Need for locally relevant biodiversity guidance
- Interest in regenerative and low-chemical methods

COMBINED INSIGHTS

INTEGRATED IMPLICATIONS & OPPORTUNITIES

1. Invest in coordinated, practical extension that is region-specific and farmer-led

Farmers want hands-on guidance, not high-level policy talk.

Opportunity: demo farms, field days, orchard walks, farmer champions and on-farm trials.

2. Make water resilience a regional flagship

Drainage, storage, effluent upgrades and water access are the strongest, most consistent needs.

Opportunity: streamline consents, co-fund storage, strengthen NRC-KMR alignment.

3. Strengthen energy resilience for rural operations

Solar literacy, battery systems and generator readiness are priority areas in all sectors.

Opportunity: a Northland Energy Readiness Package.

4. Reduce compliance fatigue and administrative barriers

Clear, plain-language guidance and streamlined processes would free up time and energy.

Opportunity: a climate resilience helpdesk or one-stop support hub.

5. Maintain and expand wellbeing and community-connection programmes

Farmers repeatedly named RSTTT gatherings as essential.

Opportunity: embed wellbeing support in all NRC climate initiatives.

6. Build region-specific research and technical capacity

Farmers and growers want science “in Northland, not about Northland.”

Opportunity: a Northland Resilience Science Hub with local trials and visiting experts.

“

Farmers need connection so
they are not on their own.

”

RECOMMENDATIONS & FUTURE PATHWAYS



RECOMMENDATIONS ➔ & FUTURE PATHWAYS



The findings from the survey, workshops, Māori wānanga, phone interviews and sector leadership conversations point to a clear set of priority actions that can strengthen climate resilience across Te Tai Tokerau.

These recommendations focus on practical, region-specific initiatives that build on what farmers and growers are already doing, while addressing the barriers that limit progress.

1. Strengthen locally led, practical extension

Farmers and growers want hands-on, regionally relevant examples rather than generic advice.

Future pathway: Establish a coordinated Northland Rural Resilience Extension Network, delivered in partnership with RSTTT, Beef + Lamb NZ, HortNZ, DairyNZ, NRC, and KMR. This would include demonstration farms, orchard walks, case studies and a “farmer champion” programme showcasing local innovation.

2. Prioritise water resilience as a regional flagship

Drainage, storage, effluent systems and catchment protection emerged as the strongest shared needs across all data sources.

Future pathway: Develop a Northland Water Resilience Programme to streamline consents, expand water-storage support, strengthen catchment collaboration and target technical assistance to high-risk landscapes.

Continued on next page....

RECOMMENDATIONS ➔ & FUTURE PATHWAYS

3. Support energy reliability and transition

Power outages present operational risks for all sectors, especially dairy and horticulture.

Future pathway: Provide independent solar and battery feasibility advice, promote generator-readiness and explore cluster or community-scale renewable solutions for remote rural areas.

4. Reduce compliance burden through clearer, simpler guidance

Regulation and administrative load are major barriers to resilience.

Future pathway: Create a Climate Resilience Helpdesk or digital hub offering plain-language guidance on rules, templates for compliance tasks and clear links to NRC, RSTTT, KMR, and industry support.

5. Recognise and invest in community wellbeing as core resilience infrastructure

Farmers repeatedly identified social connection, informal gatherings and trusted relationships as essential for getting through adversity.

Future pathway: Ensure funding for RSTTT-led community events and embed wellbeing initiatives alongside technical support in all future climate programmes.

6. Expand region-specific science and technical expertise

Farmers and growers want more applied research and specialist visits tailored to Northland's climate, soils and crops.

Future pathway: Establish a Northland Resilience Science Hub with NRC, industry partners, NorthTec and researchers to run local trials and provide technical advice on soils, pasture resilience, crop diversification and biodiversity.

Continued on next page....

RECOMMENDATIONS & FUTURE PATHWAYS

7. Support Māori-led resilience pathways

Māori workshops emphasised kaitiakitanga, whakapapa, intergenerational stewardship and the need for accessible information and long-term support across multi-owner land blocks.

Future pathway: Develop Māori-facing resilience pathways, including support for water storage, whenua-led planning, multi-year funding models and a Māori climate knowledge hub co-designed with iwi and hapū.

8. Strengthen cross-sector coordination

Rural resilience requires aligned action across agencies and industry.

Future pathway: Establish a Northland Climate Resilience Advisory Forum linking NRC, RSTTT, Beef + Lamb NZ, HortNZ, DairyNZ, KMR, Māori organisations and science partners to maintain momentum and support shared planning.



CONCLUSION



The Climate Resilience Project set out to listen directly to farmers, growers and Māori landowners across Te Tai Tokerau - to understand not only how climate change is affecting rural communities, but how people are already responding and where they need support. Across 200 survey responses, ten workshops, two Māori wānanga, 61 follow-up interviews and a sector leadership hui, one message has been consistent:

Northland's resilience is practical, community-driven, and built from the ground up.

Farmers and growers are already taking action - improving drainage, planting trees, adjusting feed systems, trialling new crops and investing in energy backup. At the same time, they face mounting pressure from compliance, rising costs, weather volatility and the personal toll of "one event after another." The strength of local networks, trusted relationships and peer learning continues to be one of the region's greatest assets.

Looking ahead, the opportunity is clear. By building on what is already working, aligning support across agencies and investing in practical, region-specific solutions, Te Tai Tokerau can lead the way in rural climate resilience. This report provides a foundation for that next chapter - turning local insight into coordinated action that strengthens communities, supports whenua and prepares Northland's rural sector for the challenges and opportunities ahead.

APPENDICES

RESEARCH TOOL	DETAIL	LINK
Survey - questions	Typeform	https://bit.ly/RuralClimate
Survey - results	Climate Resilience Survey (v1.4) - date distributed: 13 May to Rural Support and sector partner databases; 164 respondents Climate Resilience Survey (v1.2) - date distributed: 7 April to key industry stakeholders; 36 respondents	Climate Resilience Survey (v1.4) - full data report here Climate Resilience Survey (v1.2) - full data report here View Survey Report here
Workshops - handout	Condensed the survey's six findings into a single 'thought starter' page to help prompt discussion	Workshop One pager.pdf
Workshops - presentation	Guided slide deck covering survey insights, brainstorming prompts around solutions already tried, group discussion on key challenges, exercise to identify top 5 solutions per sector and time for reflection on common themes	Climate Resilience Project Workshop Presentation.pdf
Phone Interviews - questionnaire	asdfasfa	Climate_Resilience_Phone_Questionnaire (2).docx

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