Te Tau Ihu – a birds eye view

Jobs for Nature evaluation

Climate Change Resilience Thematic Case Study

Jobs for Nature (J4N) is a $1.2 billion programme that manages funding across multiple government agencies to benefit the environment, people, and the regions. It is part of the COVID-19 recovery package. J4N funds projects focused on providing employment and achieving environmental outputs.

Year 2 of the J4N evaluation generated findings around three thematic-based case studies, in addition to a Te Ao Māori evaluation. This report covers the case study on climate change resilience.

Twenty J4N projects with a focus on climate change resilience informed this case study and report.

Image by Nina Kereama Stevenson

"We are the first generation to know that we are destroying the planet and the last generation that can do anything about it."

Tanya Steele, World Wildlife Federation.

ALLEN + CLARKE

What do we mean by climate change resilience?

Climate change resilience refers to changes in processes, practices and structures to moderate potential damages or to benefit from opportunities associated with climate change.

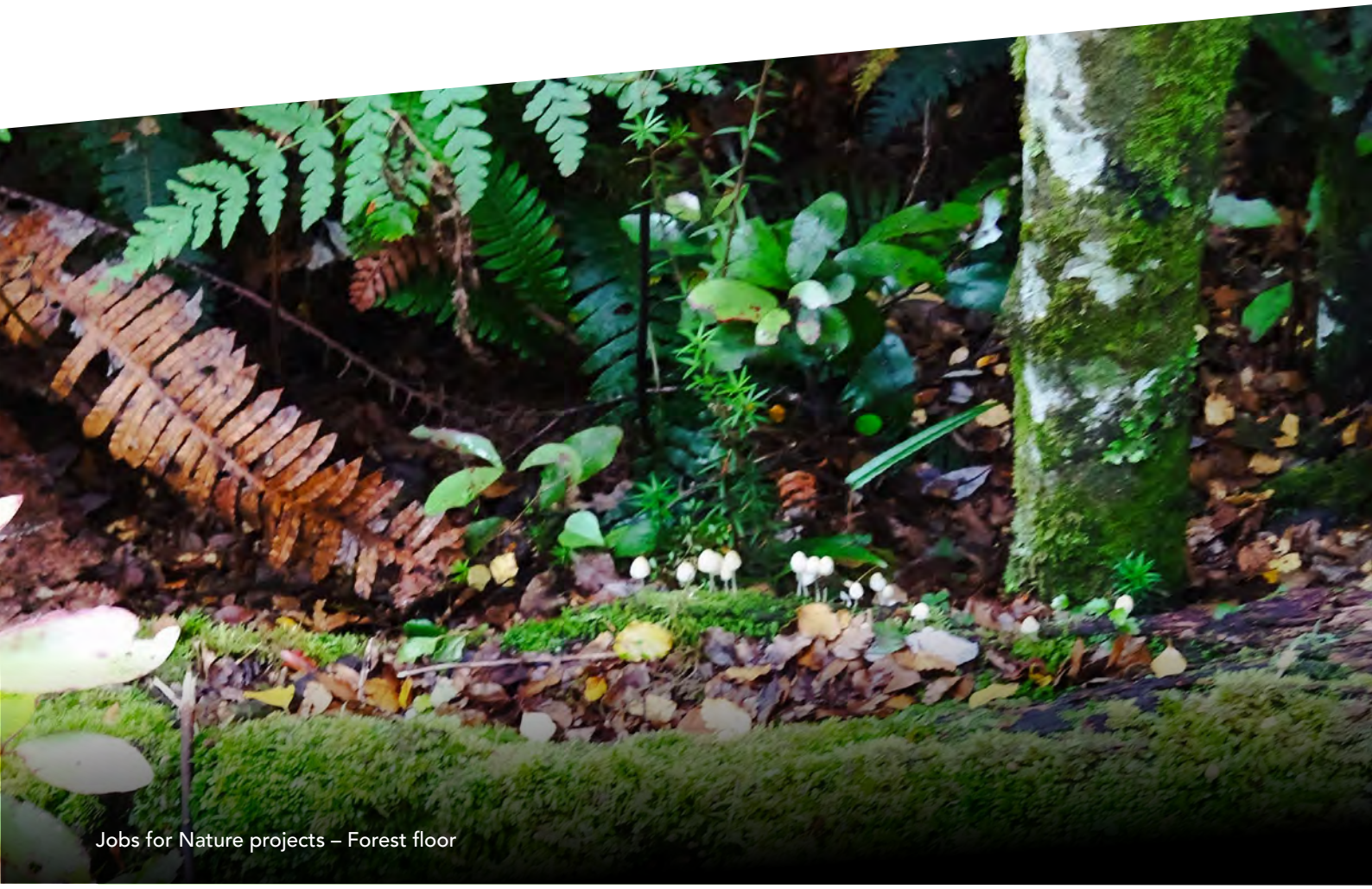
In simple terms, it means developing solutions and implementing actions to respond to current and future climate change impacts. This definition is derived from the United Nations Framework Convention on Climate Change for adaption and resilience.

J4N projects in this case study undertook climate change resilience activities such as planting trees, erosion control, riparian planting, and developing farm and environmental management plans.

Supporting environmental leaderdship

Jobs for Nature has supported environmental stewardship as New Zealanders who were employed on the programme learned about the threats of climate change, and what they can do about it.

J4N project managers and kaimahi discussed climate change resilience practices they are undertaking as part of their J4N projects.



Jobs for Nature projects – Forest floor

Working with farmers to undertake climate change resilience activities

J4N projects have worked in partnership with farmers to support climate change resilience

J4N projects worked with farmers on environmental restoration activities such as planting trees, riparian planting, and converting retired land strips into wetland or forest. Farmers, J4N project managers and kaimahi discussed how they expected this would contribute to climate change resilience by helping farmers to offset their greenhouse gas emissions. For example, planting trees will capture and store carbon.

> *"The trees will make the climate more resistant. We are funding some non-native plants, but a lot are native."* Tukipo Catchment Care member

Many of the trees being planted are natives, which were seen as more resilient to climate-related events such as flooding, drought and fire. This was proven to be the case in one J4N project which was affected by flooding during extreme weather events in early 2023.

> *"We lost about 15 trees. It's interesting because the natives, such as totara and kowhai, survived… some grew back stronger than ever."*
> Tukipo Catchment Care member

The funding available through J4N has accelerated the pace of climate change resilience activities for some farmers.

> *"We consider ourselves stewards of the land too, we just didn't have enough money left to advance any restoration work…I would say J4N has fast tracked what I wanted to achieve by a good 15 years."* Tukipo Catchment Care Chair

J4N has helped farmers think about farming differently. One J4N project described how some farmers had at first been resistant to undertaking environmental restoration activities, but their attitudes had changed over the programme timeframe.

> *"Initially we found a lot of the farmers were reluctant to engage…over the three years we got more and more engagement and by the end, with the combination of the legislation [and the funding] farmers were starting to see more the benefits…. And so they came to us saying, 'can you look for funding to continue with this?'"*
> Tukipo Catchment Care Co-ordinator

Project personnel and landowners discussed how climate change resilience activities such as restoration of the land and retiring strips of wetland that are not profitable have become normalised.

> *"I think it's opened people's minds to the benefits. For example, someone who never used to plant is now planting some amazing trees… kahikatea, matai, and totara were here initially, and its returning."* Tukipo Catchment Care Chair

However, the already-emerging impacts of climate change have limited the ability of some farmers to financially contribute to J4N projects. Areas such as Coromandel, Hawke's Bay and Northland have been impacted by droughts and flooding, and Hawke's Bay was impacted by flooding after the cyclones in early 2023. This affected some farmers' ability to pay for work completed by J4N projects.

> *"Farmers are doing it hard…. Sometimes landowners are not paying the invoices, and that gets tough for the Jobs for Nature project. We are carrying $25,000 of unpaid invoice work."*
> Hokianga Catchment Care, Project Manager

> *"Last summer we had Cyclones Gabrielle and Hale. So obviously that shifted farmers' priority for a period to recover from that…that has then been very challenging for us."*
> Moehau ki te Moana, Project Manager

Mātauranga Māori and climate change resilience

Pūrakau and mātauranga identify coastal hazards in planning

Mātauranga Māori has a past, present and future, and this knowledge can be used and adapted to understand contemporary challenges such as climate change and coastal hazard management planning.

A J4N project aims to restore the mauri of Lake Moawhitu, a pātaka kai for iwi in Te Tau Ihu, on Rangitoto ki te Tonga (D'Urville Island) in the Marlborough Sounds. Amongst the long list of natural disasters and weather pattern changes – including flooding, drought, slips, warming seas and rising sea levels – the increased risk of tsunami has been identified as impacting coastal communities.

The J4N project has drawn on stories from the past to understand what has happened in the lake over time, and pūrakau (stories and legends) help to identify current climate change threats.

Pūrakau provide lessons about how the environment works. A pūrakau shared by local iwi warns about a tsunami event that occurred around 1350. According to legend, this was caused by an epic battle between the emissaries of atua. The village and people were gone, described as wiped out by three large waves.

There is another pūrakau describing a tidal wave called Tapu-arero-utuutu, which swept into the harbour destroying coastal papakāinga and taking many lives.[1] The account describes this as utu (vengeance) for the breaking of tikanga.

These pūrakau provide lessons about where water will impact and how tidal waves behave when they hit the beaches and cliffs of Rangitoto ki te Tonga. This knowledge is valuable to support resilience to climate change threats related to rising sea levels.

For example, the J4N team discussed a desire to build a hut closer to Lake Moawhitu to support the J4N restoration work. However, these stories from the past indicate that it would not be sensible to house the restoration work near the lake or shore.

Mātauranga Māori informing J4N climate change resilience activities in the ngahere

The ngahere is an important source of identity for iwi but is being impacted by climate change. In Northland, Te Rarawa describe how the drought produces tinder dry conditions, along with the pressure from pest weeds and pest animals and kauri dieback.

> *"Possums were hanging from the trees likes birds when we first started. They were so abundant. The state of the ngahere was in a bad way."* J4N Supervisor

An J4N iwi-based trial of native trees on a pine forestry site is supporting climate change resilience through regenerating rākau Māori. Pine trees destroy the biodiversity that iwi love, and is needed for climate change resilience. The native trees support the longer-term vision of the iwi for kukupa (kererū) to return.

The project is delivered through rangahau (research) and wānanga. The wānanga discussions included whānau sharing history around some of the intended trial sites to inform what native trees were best suited for those areas.

> *"We've locked [unsuitable] areas off…wāhi tapu, old pā sites…it goes to 2025 [but] trustees want it to be forever."* Project Manager

The Nursery Manager recalled stories from kaumatua about the birdlife and trees in the ngahere, and reported that whānau were positive about the project, its aspirations, and work they were doing.

1 "Te Tau Ihu o Te Waka: A History of Māori of Nelson and Marlborough", Hillary and John Mitchell

J4N supports Māori primary sector climate change resilience

Some Māori economic activity is related to the whenua, such as horticulture and agriculture.

These activities are vulnerable to climate-related weather events such as droughts and flooding. These effects were being seen by farming communities that we spoke with during the case study site visits of the farming community from Northland through to the South Island.

> *"We used to have a steady climate, like we would have regular rain without the highs and lows. We did have the extremes but the droughts the last few years have had the most impact."*
> Tukipo Catchment Care Committee

J4N projects provide an opportunity to diversify the Māori economy into more diverse, climate-resistant industries. For example, a J4N project run by an Iwi forestry rental trust has enabled them to become more climate change resilient through exploring honey production, farming differently, planting natives and restoring the ngahere in partnership with Scion. We were shown large sites of pines with native borders, beehives and manuka. We talked with project kaimahi as we travelled, and discussed the changes they were making.

> *"All we thought about was the money in forestry... however, Jobs for Nature gave us a chance to diversify."* Project Manager

> *"We are trialling different ways of managing pine forests and farming in Northland. We are exploring carbon credits, planting natives, developing our nursery and exploring honey production. Jobs for Nature enabled us to do that."* Operational Manager

The Ngarororo River in Hawke's Bay. *"When the river remembered where it used to be, it filled up the old beds we used to know."* - Teacher from Ōmahu Marae

Resilience to climate-related extreme weather events

Climate-related extreme weather events affected J4N project delivery

The importance of Jobs for Nature's contribution to climate change resilience was illustrated when some J4N projects were impacted by climate-related extreme weather events in early 2023. In particular, Cyclone Gabrielle impacted projects in Hawke's Bay.

For example, one project which employs people from the intellectually disabled community had to evacuate 100 people from one of their worksites due to the cyclone. The J4N project manager described Cyclone Gabrielle as a disruptive and traumatic climate event that increased the levels of anxiety and stress in their community.

> *"When the cyclone hit we just put our tools down and evacuated. The nursery was by the sea, and it flooded. The confluence of the Tukituki, Ngarororo and Clive [rivers] came together in that flood… There were mountains of silt."* Project Manager

Responding to the situation required care and planning from the management team, particularly due to the vulnerability of the J4N kaimahi. Being able to continue to work on the J4N project was described as an important part of their recovery.

> *"Structure and order are very important to our residents. They had been displaced from their homes, and no longer had work or workshops. J4N was meaningful, purposeful and so helpful."* Project Manager

> *"We were able to keep riparian planting in the tributary...we were lucky, we didn't lose as many plants as we thought we would. Our major thing was making sure the people were supported, so we have an amazing team of support workers."* Project Manager

J4N helped communities to respond to climate change-related events

Jobs for Nature has contributed to communities' climate change resilience through creating a workforce with the skills to respond to climate-related events. This was illustrated through the roles in which J4N projects played in supporting communities during and after Cyclone Gabrielle.

The cyclone damaged infrastructure and services, including water, wastewater treatment plants, transport, power and communication. Communities were evacuated, homes destroyed and lives lost. In the midst of this, Jobs for Nature teams rose to the

J4N helped provide resilience to communities who needed support and routine to recover from Cyclone Gabrielle.

occasion with skills and capacity. We interviewed J4N projects in Hawke's Bay, Waikato, Coromandel and Northland who deployed their teams to the recovery effort. This was initially focused on immediate civil defence assistance such as clearing trees and debris, and distributing food and water.

"Our team just got out their chainsaws and started clearing the roads. Our marae was set up to care for the communities, and our Jobs for Nature teams pitched in." Project Manager

"Everyone obviously shut down and we stepped up our Taiwhenua. Our day-to-day operation stopped, and we set up a massive of logistical operation. We had a food hub going and trucks coming and dropping off clothes and bedding. Our Jobs for Nature team were in people's garages, water blasts and getting jib off walls and getting stuck into it." Project Manager

In the aftermath of the cyclone, some J4N teams had an ongoing role in the recovery and rebuild phase, removing silt, clearing homes and building, and rebuilding structures such as fencing.

"J4N enabled our team to go out into the public and actually be redeployed to those communities that were affected…Yeah, for about two months." Project Manager

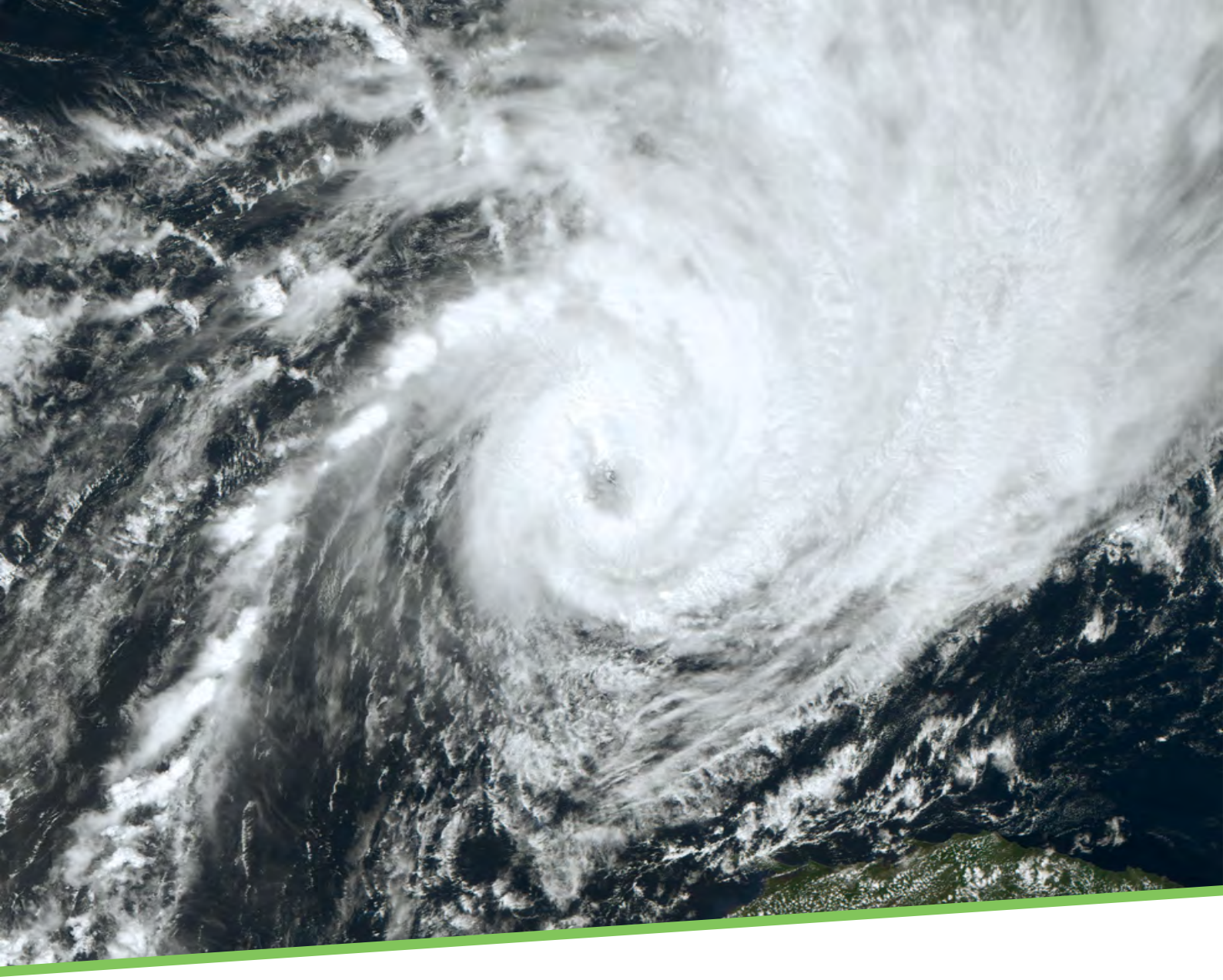
"We put a team together of a lot of us… and went to Wairakei cause they had huge amounts of fences go down. So we went and rebuilt their fence for them." Kaimahi

The skills developed through J4N nature-based work lent itself to civil defence assistance, from driving to clearing trees, outdoor first aid, chainsaw and scrub bars and construction. J4N brought together younger people who were seeking employment and raised their fitness because of the physical nature of the work. This was reported as invaluable to local communities in the times of repeated climate-related extreme weather events.

"That was really cool to help and also I think our skills, if we are needed for civil defence we've got that four-wheel drive skill. I'm definitely looking to join search and rescue now." Kaimahi

This "social capital" in the form of J4N networks supported community cohesion and trust. This enabled community members to mahi tahi or work together to help each other overcome hurdles.

"We had a community day planned before the cyclone, and we decided to have it after all…it just meant so much to the community and we had 20 people stay." Tukipo Catchment Care Coordinator



Knowledge adaptation to address climate change

Addressing climate change requires knowledge adaption and innovation. J4N funding was used to create a digital tool that supports communities in their efforts to engage and safeguard nature, which in turn helps communities to become more climate change resilient. For example, Creative HQ was funded by J4N to build a prototype of a tool that enables people across the country to find volunteering opportunities, look at it on a map, and connect with the people that are hosting them. It builds community by bringing people together, and empowering them to take action to protect the environment. This tool helps to break down barriers to participation, such as geography or lack of awareness of local opportunities.

The result was a digital platform that provides a directory of nature-based activities and volunteering opportunities throughout Aotearoa. Users can easily search for activities by location, type, or date and connect with organisers and other volunteers. The platform also includes resources and tips to help users get the most out of their experience and become advocates for environmental protection in their communities.

The platform will help form a community of volunteers that are passionate about environmental protection, which may have longer term benefits for enhancing Aotearoa's climate change resilience.