## SESSION 4: CASE STUDY 3

# Aka'tika Uira (Realign the Wheel): An analysis of the climate adaptation methods adopted by farmers in Rarotonga, Cook Islands

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**Abstract**

Climate change is already a critical issue for Pacific nations and threatens the ability of local farmers to produce crops. Despite this issue, farmers have been historically left out when it comes to research. Understanding Pacific farmers' experiences of climate change, the way they adapt in response, and the challenges they face in sustaining their production is essential.

This study analyses the adaptation methods used by farmers in Rarotonga, Cook Islands, using data from a survey conducted by PHOAFS Regional Research Agenda partners across multiple Pacific countries. A sample of 174 farmers were surveyed across August-September 2024. Descriptive and bivariate analyses were employed. Farmers reported experiencing inconsistent rainfall (49%), rising temperatures (50%) and increasing frequency and/or severity of droughts (49%). Overall, most farmers (87.9%) had made at least one adaptation method in response to changing weather patterns and were more likely to adapt in response to increasing drought conditions.

The major adaptation methods implemented by Rarotonga farmers were crop and soil management methods (52% of all adaptations), such as crop rotation, mulching, and composting. Contrary to other bits of research, there were no demographic factors influencing farmers' likelihood of adapting. The findings from this research illustrate that farming is holistic. And point to a practical focus on increasing support from the government through improving opportunities for education and access to resources.

**Introduction**

Kia Orana. My name is Selane Tairea, and I work as a research officer with the Te Puna Vai Marama Research Centre in Rarotonga, Cook Islands. I am humbled to share a glimpse into the resilience and innovation of our growers as they adapt to shifting climates and uncertain seasons.

In 2024, the Pacific Heads of Agriculture and Forestry Services identified two research priorities: first, to understand farmers' real experiences of adapting to changing climatic conditions, and second, to ensure that farmers' voices are centred in the research process. With colleagues across Tonga, Papua New Guinea, Fiji, Nauru, the Marshall Islands, and here in the Cook Islands, we developed the Farmers and Climate Change Survey to bring those voices forward.

**Farmers' Experiences of Climate Change**

Working with our Ministry of Agriculture, we surveyed 174 growers on the island of Rarotonga. We asked: *What changes in weather have you experienced over the past ten years?*
The clearest message was drought:

- 51% reported more frequent droughts compared to 10 years ago.
- 34% reported increasingly unpredictable drought patterns compared to 10 years ago.

Farmers told us their traditional indicators no longer match the seasons. It is harder to know what to grow and when.

**Adaptation Strategies on the Ground**

Despite these challenges, our farmers are adapting:

- **Soil and crop management**: mulching, composting, cover cropping, mixed cropping, and crop rotation.
- **Water management**: irrigation systems and new water tanks (which are far more common today than just a few years ago).
- **Pest and disease management**: combating problems like powdery mildew, slugs, and snails — though farmers noted frustration at the lack of timely information to identify and respond to new threats.
- **Organic farming**: many growers are shifting toward organic methods, though definitions vary. For some, organic means eliminating chemicals entirely; for others, it means focusing on soil health practices like composting and mulching.

Interestingly, only a minority of farmers (about 24%) changed their crop selection, preferring instead to adapt *how* they grow rather than *what* they grow.

**Barriers to Adaptation**

The biggest barriers our growers reported were:

1. Lack of government support.
2. Lack of resources and technical information.
3. Lack of funding — always the hardest "F-word" for farmers.

Without stronger institutional support, many adaptation efforts remain limited in scale and impact.

**Building Solutions Together**

After the survey, we shared the findings back to farmers and held a community workshop with growers, government, NGOs, and private sector actors. Together, we identified practical solutions:

- Installing mini weather stations.
- Increasing government plantation visits at times that suit growers.
- More workshops and training opportunities.
- Providing financial subsidies.

Already, we are seeing progress. The Ministry of Agriculture is adjusting planting schedules and running village workshops, while the Meteorology Office is seeking funding for weather stations that farmers themselves can use to collect and interpret data. This creates a win–win: farmers gain locally relevant data, and national services receive more accurate forecasts.

**Why It Matters**

Farmers are at the heart of food security. In the Pacific, where countries like the Cook Islands rely heavily on imports, their role is magnified tenfold. We need to grow more of our own food despite climate challenges. Farming is not just an economic activity — it is central to our daily lives, our resilience, and our identity as a people.

**Conclusion**

This work would not have been possible without the commitment of our local growers. They are already making real efforts to adapt to climate change, despite scarce resources and support.

Now it is up to us — researchers, policymakers, academics, and decision-makers — to stand alongside them. Climate change affects us all, and as we say: *Meitaki maata, ka taokotai tatou ka tae tatou*— if we all work together, we can overcome anything.

Selane Tairea is a Research Officer at Te Puna Vai Marama Cook Islands Centre for Research. She holds a background in psychology and statistics and specializes in community-based data collection, analysis, and reporting. Selane has a passion for blending research with purposeful community engagement. Her work includes national surveys, professional development, program design, and policy dialogue. Selane has worked closely with local farmers to document the on the ground impacts of climate change and is working in collaboration with agencies to develop solutions that reflect local realities. Her contributions to the Pacific regional research agenda is the focus on making research more grounded, inclusive, and useful for decision-making. Serving amongst a number of NGOs in the Cook Islands, she pushes for people to understand that "If you want to do research in the Cook Islands but you do not work with the community, you are not going to get far."