



THE UNIVERSITY OF
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Te Whare Wānanga o Waikato

Pacific Climate Mobility



Landed: Climate Relevant Land Risks for Tonga and Samoa

Climate Change Mobility Research Tonga and Samoa

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Hospital, now decommissioned due to sea erosion of land: Lifuka, Ha'apai Tonga, 2023



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PRODUCT OVERVIEW

This product fits into a broader research effort on the future of climate change mobility in the Pacific, enabled by New Zealand's climate finance through the International Development Cooperation (IDC) Programme. Throughout fieldwork visits to Tonga and Samoa, as well as diaspora engagement in Aotearoa New Zealand, land-related topics, issues and risks were identified and explored with research participants, including with government leaders, academic land experts and those who have had direct or indirect experience with mobility. The researchers benefited from the support and guidance of carefully chosen in-country partners - partners who have deep relationships and established reputations within country through their own in-community service. This credibility enabled the researchers to engage a wide range of participants and explore what are highly sensitive topics.

This product, centred on land in the context of future climate mobility anchors on talanoa with around 100 research participants. The product is structured to open with an introductory section on how land (including the ocean) is being defined in this product to ensure a culturally relevant lens is applied to the matters covered.

A set of summary policy implications are provided upfront. This is then followed with a set of themes that look at a series of risks identified as they relate to land, as they also intersect with, for example, culture, identity, disharmony, and food. Insights from Tonga and Samoa are integrated into each thematic discussion, however noting some stark differences in land tenure between Tonga and Samoa, comparisons are also drawn with relevant differences highlighted.

The question put forward to frame this product is what are the risks, relevant to land, in the context of future climate mobility?

In scope for this work are the ideas and insights from the ~100 talanoa, with additional reflections from the researchers and their lived experience, as well as inputs from our in-country research partners in Tonga and Samoa. A Māori lens is also taken to this work, considering parallels as well as possible opportunities as it relates to land and future Pacific mobility.

Out of scope for this product on land is any detailed coverage of legal arrangements relating to land and land tenure in Tonga and Samoa or coverage of land-relevant history except where related to one of the risks or opportunities identified. This in part is in recognition of existing expertise and work in these areas.

Though the researchers engaged many on the topic of land, and land relevant issues and opportunities were raised frequently and in-depth by some of those we held talanoa with, these conversations, and this product, still cannot hope to be a full reflection of perspectives on land-relevant risks and opportunities in the context of future climate mobility. Naturally there will be gaps in perspectives raised, and personal opinions spotlighted. The researchers are also keenly aware that topics of land have spiritual, cultural, social, and economic dimensions, and discussions on land can be highly personal, emotionally-charged, and contentious. The product is intended to be an important contribution to an existing conversation, and hopefully a springboard to further exploration and detailing in the future.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the participants and authors, and do not necessarily reflect the views of the New Zealand Ministry of Foreign Affairs and Trade.

SUMMARY OF INSIGHTS

1. Talanoa with a range of stakeholders in Tonga suggests that there could be room to review current land (and marine) laws in Tonga in the context of future climate mobility. Review could be centred on reducing the relative vulnerability of certain populations, reducing risks of land-related conflict, and securing or protecting land options for the population under a range of climate mobility scenarios. Review could consider the latest hazard mapping data for Tonga to identify and categorise land of priority in the context of future climate mobility. Further, it could include the review of policies around land gifting and land leasing practices (e.g., for areas where land is elevated/where greater internal mobility may be directed), land holding rights (including of women), protection and monitoring of marine resources on temporary or permanent vacation, the rights of 'settlers', re-access rules and rights to evacuated land etc. Codifying land holding rights for women would help reduce reported land insecurity risks for women from weakening values of fatongia (obligation) to care for/shelter women. Further, the process of review could provide a valuable mechanism to engage with a range of critical stakeholders, including the influential overseas diaspora, to receive their input, secure their buy-in and support of possible changes. It could also be a means to open up conversations around overseas land (see point 5).
2. Further, and related, thinking could be invested in dedicated climate mobility policy in Tonga and Samoa, that factors in all decision makers and influencers, and where indicated, standardises somewhat decision making on land allocation or use to improve fairness, transparency and reduce outcome discrepancies following climate related mobility.
3. While some leaders in Samoa were confident in both the quantum of land available in Samoa, and the capacity of customary land rules to accommodate future mobility scenarios, others shared alternate views and risks. A review of land tenure systems in Samoa in the context of future climate mobility could factor in risks to land-vulnerable individuals (e.g., those with limited-to-no representation on Village Councils), as well as acknowledge that the flexibility of customary land tenure laws is applicable to less and less households as the trend to reside on freehold land increases. Continuing current efforts to standardise some land court decision-making on customary land would help protect against future complexity and possible inefficiencies.
4. On diaspora engagement, explore opportunities to engage this stakeholder group in Tonga more directly on land availability matters, including options to increase the current scale of innovative land access measures, like land swaps, where diaspora-held land is in elevated or inland areas (e.g., priority land for possible residential relocation or food-growing).
5. The possibility of organised overseas land purchase in places like New Zealand was raised several times, particularly by participants in Tonga. Māori leaders also raised this as an option (or even a need) though recognised that it would be a difficult subject to broach. A no regrets action would be to further these discussions, including with Māori, and explore international and regional examples for lessons.
6. Policy making around mobility, immobility in Tonga and Samoa must consider the familial connections people have with land – including how beliefs around family, people's strong sense of obligation to family (including those 'passed') and spirituality tie into priorities and decision making around whether to move, where to move, and when to move.
7. Concerns were raised about current mental health issues due to recent mobility and the lack of attention on the risks of psychological impacts of climate related land dislocation. Many emphasised feelings of loneliness, disorientation and the increase in alcohol, kava and drug abuse in those generally impacted by mobility. Research participants implored leadership to focus on addressing the psychological impacts and needs of those already impacted by environmental or climate related mobility, as well as investing in planning for futures of climate mobility at-scale. Planning for psychological impacts should be highly-contextual, factoring in the cultural (e.g., land-linked language), spiritual (e.g., feelings of belonging) and economic linkages (e.g., land-related income). In other words, planning should actively acknowledge the interconnectedness of land, economic, social, spiritual,

SUMMARY OF INSIGHTS (CONT.)

and cultural well-being. Naturally, efforts should be led by Tongans/Samoan and grounded in evidence and observations of what is prioritised by those in Tonga and Samoa (e.g., the importance of natural markers like certain trees, relocating ancestors, identity and links to land). Others suggested that the power of stories could support future mental health outcomes from relocation, including for example the strategic sharing of emerging evidence of historical inland and upland occupation in Samoa.

8. Several senior leaders in Tonga and Samoa raised concerns about the protection of Exclusive Economic Zones on climate-related land vacation, and Māori leaders also raised concerns around land vacation, economic protections and regional security. One senior government leader in Tonga specifically requested support for monitoring and protecting reef health as the basis for broader marine health and productivity. Policy thinking should prioritise investment in land and marine resource/fisheries conservation and protection from the impacts of climate change, but also from outside interests, to support long term economic, social, ecological, and cultural outcomes for Tongan and Samoan people.
9. Investing in food security measures at a household level, including potentially the provision of food growing tunnels/green houses could protect against some climate change impacts and strengthen the resilience of rural village communities. Further, spotlighting or promoting effective, contextual adaptation strategies being led at the village level (e.g., rules around no longer felling trees to make way for plantation crops) could also expand adaptation benefits.
10. Some leaders continue to practice traditional approaches to land management and resource sharing, for example, the openness of some nobles in Tonga to those outside of the village collecting mangrove crabs from their land. There are opportunities to revisit, share and celebrate these traditional approaches that offer broad resilience benefits and reinforce valuable social compacts.

BRIEF CONTEXT

This product, though centred on climate mobility acknowledges and explores the relationship between people and land. Economic, environmental, social and cultural development for Pacific peoples is rooted in their spiritual and physical relationship to land, to fonua, to fanua, and to whenua. Land for Pacific peoples of course also includes the ocean, inspiring for example Tongan philosopher 'Epeli Hau'ofa's dictum 'Our Sea of Islands.' In talanoa with one woman in a particularly climate-exposed area in Tongatapu she relayed simply "we don't have land, but we have the ocean".

Land, people and ocean are inextricably linked through belonging and through identity in a seamless flow of closeness and distance. Land cradles whakapapa, genealogy, ancestral memories, knowledge, stories, waiata, karakia, natural and human activities, and in return, often these things honour the gifts of the land that supports human survival and sustenance. Mobility for Pacific peoples typically followed a seasonal routine, of nature's cycle to plant or fish, to harvest, to cultivate or to work with the resources to ensure that the livelihood of people and land is not only sustained but honoured through spiritual and cultural rituals.

Hau'ofa shared the important notion that fonua can reference both people and land. Further, fonua is not only the physical land but the language, the religion, spirit, culture, environment, fanua, the feel of that place – people are mobile extensions of their physical fonua which may be fixed to a geography but the mental, spiritual, and emotional fonua moves with the person. We are the fonua and the fonua is us.

Mead (2003, p.271) says "the land and the environment in which people live became the foundation of their view of the world, the centre of their universe and the basis of their identity as citizens or as members of a social unit". Further "land was also necessary as a means of maintaining social solidarity".

Mobility and being removed from land separates one from their gods' and ancestors' and from their ele'ele (ele'ele meaning earth, dirt and blood), communicating the relationship that humankind has with the environment, both divine and real.

1. Dr Timote Vaoleti held a talanoa with 'Epeli Hau'ofa in 2004.

2. Mead HM. 2003. *Tikanga Māori: Living by Māori Values*. Wellington: Huia. p 271.

LAND, IDENTITY, CULTURE RISKS

"So much of who we are is the place where we are from. It's not just agriculture and food stability, but also our language and traditions, so much of it comes from the land. All our material traditions... all of that comes from the land. If that goes, all that traditional knowledge goes with it... people have to move to Australia or New Zealand? Pandanus only grows in the tropics" (Community expert, Samoa)

"This land is my mother's heritage. How do you separate someone from their heritage?" (Olive, Nuku'alofa, Tonga)

"I don't want to move like the Mango people. We are fisher people, we don't want to work in a plantation" (Female participant, Patangata, Tonga)

The intersection of land, culture and identity was a very common theme raised in both Tonga and Samoa. The inextricability of the 'self' from land was presented often as a truism and not always well detailed or explained in talanoa. This interweaving of land and self came through often also in the diaspora survey where Tongans and Samoans overseas shared powerful statements about the land, with one member of the Samoan diaspora simply saying 'it is my blood'. Tongans have a saying "Tonga mo'unga ki he loto" meaning Tonga's mountain lies in the heart of people, and one carries their mountain wherever they live. People and land are inseparable.

Some articulated the connection between land and language, including how words reference things unique and specific to certain areas in Tonga and Samoa. Further, many words in Tonga and Samoa express this person-land connection. Words like fanua and fonua, used for land and people; kainga meaning people, place and the communal village; ele'ele for dirt, ground and blood. It is a language of respect and epitomises the harmonious and respectful relationships that were interwoven in the daily routines of life.

Some of the challenges of dislocation from one's land and by extension, one's identity, can be studied by examining the experiences of those who have relocated following environmental events. The relocation of the people of Mango in the island group of Ha'apai – people who have been fisher people for time immemorial – to the elevated lands of 'Eua where people identify as farmers, has created tension. Differences in work habits, perceived motivation, and willingness to 'move on' from being fisher people and accept their new setting were identified as challenges for the receiving community. However, the barriers to more actively participating in farming life in 'Eua appeared to be deeper than any practical barriers. Those from Mango had been provided land, had that land prepared for them, and were even provided transport to their new plantation. Further, in talanoa, people from Mango confirmed that they had in fact previously farmed and that they had the skills and knowledge to do so in 'Eua. The resistance to participating in this new land, interacting with the land in a way that goes against their usual therefore must be deeper, likely tied at least in part to one's belief in who one is (and is not), and therefore what one does (and does not). Addressing the resistance in this situation, and likely in future, would take a different approach.

Further, many others expressed an understanding of the challenges being faced by the relocated Mango people, and some shared a concern about facing the same challenges to their identity should they move (e.g., participants in the future scenarios session, and a talanoa participant who resides in the highly climate-exposed area of Patangata, Tongatapu). Awareness of these challenges will likely influence mobility decision-making in future for more people than those directly impacted.

Others spoke of value systems and behaviours that are consistent with a group of people originating from a given land area. The researchers note that connections between land and identity is not limited to one's own internal reflections of self, belonging and connection, but also that there is important social sense-making that occurs in

relation to land/location and identity. This social sense-making could be illustrated by an example in Tonga where a group of non-local Tongans appear in a particular village. Locals may ask each other who they are, with the common response being to identify this new group by where they originate from. By doing this, knowledge of the expected behaviours, values etc. of this group is communicated and understood.

Land was also commonly discussed in Tonga and Samoa as the means to provide or have access to the materials for practicing and continuing different cultural traditions. Those with a relocation history – recent or not – raised the risk of culture and knowledge loss if access to materials is not protected and prioritised. Many, particularly women, cited access to (or a lack of) pandanus plants on relocation as a significant barrier to ongoing cultural practices of e.g., weaving, as well as all the 'cluster' benefits of these practices – socialising and community support, knowledge and story sharing and the transmission of traditional knowledge to continue with younger generations. Unique knowledge connected to different land and fishing grounds was central to many communities' sense of self, with some sharing the pride they felt knowing special fishing approaches for specific fishing grounds, or planting skills for e.g., breezy coastal areas. Some spoke on the risks to ancient kava rituals that would be degraded or lost if the fonua is impacted by climate change or the people of that land are relocated from it.



Site of new relocated village for Mango-Eua, Tonga, 2023

RISKS TO LAND AND FAMILY, LAND AS FAMILY

"Any movement required the movement of the dead too" (Community expert, Samoa)

Many in Samoa and Tonga spoke of land and family, particularly in relation to family passed. In Tonga, many participants volunteered stories of relocating family from coastal burial sites to higher land, either proactively (e.g., Lifuka, Ha'apai) and following disturbances from e.g., tsunami (e.g., 'Atataa, 'Eua). In Samoa, people shared stories of siblings choosing not to leave land that was hazard exposed as they did not want to leave their parents who were buried in that land. One family from the relocated island of 'Atataa shared that they had brought the body of their father to the new village of 'Atataa Si'i so that he could be closer to them.

In talanoa with a family in Satitua, Samoa, they spoke of the disturbance of bones of deceased family during the 2009 tsunami. The bones were gathered and washed, and funeral rites were conducted before they were returned to the original location of their grave sites. The family shared that as the bones of their ancestors were being carried back to the site, they became very heavy 'like the weight of a body' and believed that the ancestors were communicating that they did not want to go back, preferring to be up higher where the family were now living. They said that they told their ancestors that they needed to return to look after the family land.

Further, a number of overseas diaspora surveyed in Tonga and Samoa reported that climate change adaptation support they provided to family in Tonga and Samoa was funding the relocation of family from coastal or low-lying burial sites to inland locations.

A community leader in Samoa shared her experience of travelling to Tokelau in 2007 and being struck by efforts there to relocate their ancestors from coastal areas, saying "the thing that struck us was the graves. One of the adults had to move their dead relatives to another area. There was a conversation at that time - any movement required the movement of the dead too."

In a workshop with women in Kolomotu'a, Tonga, in the context of discussing resilience, one group shared that the source of their resilience in the face of environmental impacts was a deep, unmoving 'love for the motherland'. This language, tying land to family bonds, was also very common in survey responses received from both Tongan and Samoan diaspora. In a response from a Samoan living overseas they said "it is the motherland of my mother", another shared "my ancestry and blood are embedded in Samoa". One Tongan living overseas wrote "my culture doesn't just bind me to my family but Tonga itself". By extension, one could expect that a breaking of that depth of connection to land could be as damaging and as disorientating as the breaking of a familial bond.

LAND LOSS AND PSYCHOLOGICAL RISKS

"The focus for climate change is on physical safety, but less on psychological safety. Feeling dislocated, [having to make] new friendships, loneliness. It's very deep and unsettling... getting new land, a new home, that's just the start" (Dr 'Eakalafi (Kalafi) Moala, Kolomotu'a, Tonga)

"It will affect people mentally. To see their land like that. See the crabs settling on your land" (Governor Pita Taufatofua, Ha'apai, Tonga)

"I think, I'm in my 70's, how long did it take me to get here. If I have to start from scratch now? Rebuild somewhere new? That would be very hard... this research is so important because we must start to prepare the minds" (Female participant, Samoa)

The need to prioritise the non-physical impacts of dislocation from one's land was the topic of several talanoa in Tonga and Samoa. Those in Tonga identified manifestations of non-physical harm following absence from Tonga (seasonal work programs were discussed specifically) and land dislocation including aimless wandering behaviour and a striking increase in drug and alcohol misuse. Kalafi Moala, an author and journalist, shared his thoughts "In the last 25-30 years, we have seen more mental illness and psychological disorientation [in Tonga]... mobility and migration have to have contributed... we didn't imagine the impacts. We see people moving towards gang membership, there are many kava groups now. There is alcohol and drug abuse. When you ask them why, they say they felt lonely. We are seeing this more and more. People seeking an 'out' from their struggles."

In Samoa, women from the village of Lalomanu who relocated inland and upland following the 2009 tsunami discussed some of their challenges, particularly as it related to distance from their original area of residence, fishing grounds and access to the main road. Even though this group had relocated within their own village land, they still expressed a strong longing and sadness at no longer living coastally where they were familiar and where they said they spent more time as a family, including playing with the children in the ocean "I miss our land, the environment... we were all happy then."

Many believed that the emotional and mental impact of dislocation was possibly the most damaging and was and would be the cause of many other social, economic, and cultural issues down the track. In kōrero with Māori leaders (see Six Kōrero product), Rore Stafford empathised with future suffering from climate related land loss in the Pacific, saying "how do we manaaki people when they have had to move from their whenua; our whenua to us means everything... every day I can go to the farm and walk on the whenua... if I can't walk on my whenua then I am lost; this is a challenge... how do we manaaki people who are suffering... I look at the television and those poor people in the Hawkes Bay, Wairoa who lost everything. It will be the same for those people from the Pacific".

It was acknowledged by a senior government leader in Ha'apai, Tonga that the impact of seeing or experiencing land changes was and would also have spiritual impacts ("to see their land like that, to see the crabs settling on your land"). However, they also struggled to expand on this feeling, wondering if the conflation of spirituality and religion in relatively recent years has limited their capacity to specifically define the spiritual loss, simply saying "it is more than just emotional".

In Tonga, a couple of people taking part in the future visualisation exercises described a deep sense of loneliness and disorientation in seeing changes to their family land and other previously familiar areas, repeatedly coming back to say how different the land looked, how natural markers had changed or were missing. In the future visioning exercises, in Tonga and Samoa, the importance of physical land markers was apparent in several ways. People noted the role of land markers in facilitating a sense of ease, security and belonging, as sense-making markers, and as change markers for future climatic changes. One participant spent time detailing the garden surrounding their home in their future vision, sharing that it was the garden that family had planted and that it made them feel safe and at ease being in that environment. On the flip side, participants expressed a deep sense of unease and reported feelings of confusion and disorientation with the absence of land markers they were familiar with, for instance, the bushes where they would tie the goats, or the big mango tree. Others described with emotion visions of rows of coconut trees that had been on their land that were now standing in sea water. Further, the poor health of the ocean and the distinct lack of interaction with the ocean in future visions in Tonga and Samoa appeared to create high levels of discomfort in the participants of that exercise, with most reporting that no one was in the ocean anymore in their future visions 'it's like you can't do that anymore'.¹

In Samoa, several participants reflected on the importance of mental preparation ahead of larger scale relocation or land dislocation events. Having 'seen' some of the possible changes in visualisation sessions, they highlighted mental preparation as both the most critical step, and the change that has the longest lead time. In both Tonga and Samoa future scenario workshops, mental health issues in the population came up frequently as an impact of future climate mobility.

¹ See *The Visions product for more detail*.

LAND LOSS AND PSYCHOLOGICAL RISKS (CONT.)

In the context of mental preparation and opportunities to conceive of new (or old) living arrangements, an interesting talanoa with an academic leader and land expert in Samoa, covered how thinking and evidence is building on a history where villages were originally based inland and upland in Samoa. Another academic leader also shared work happening in 2023 that was mapping evidence of inland 'cities' in Savai'i. Coastal migration for living – i.e., village settlements being coastal not inland - was thought to have happened in response to greater levels of trading with foreigners.

LAND AND RISKS OF DISHARMONY (CONFLICT)

"There have been serious incidents of conflict between and within families... there was a recent altercation in Savai'i over land where someone was shot" (Academic leader, Samoa)

"The colonisation of Samoa shifted perspectives on land from being about food provision for the family, to land being a means to make money. Once land became commercialised it was the start of these issues... the more development, the more disagreement" (Academic leader and land expert, Samoa)

"Conflict won't necessarily be out in the street... but if we reflect on what has been said here today, about the difference in experience and obligations between the settlers compared to those originally from the land, the landowners, that is where there will be conflict" (Ilavaha Tovehi, Nuku'alofa, Tonga)

"We prepared the plantation land for them, planted them food, all they need to do is harvest it, but they don't" (Resident, 'Eua, speaking about those relocated from Mango, Tonga)

Land was identified as a basis for conflict within and between families in Samoa. Participants cited unclear land borders as a common cause, and an increase in the complexity of decision-making due to, for example, the splitting of Matai titles (see section: Land, decision-making risks and locus of control.)

One land expert in Samoa provided context to the challenges and land-related conflict playing out inside and outside of land courts in Samoa, sharing his perspective that colonisation, the establishment of land tenure (as all land was customary land prior to European settlement), and specifically the commercialisation of land is at the heart of land-based conflicts saying "the more development, the more disagreements". It was a shared perspective among many participants in Samoa that the number of land disputes going to court is only increasing and that land related disagreements within villages now 'often go to court'.

In talanoa with a senior government leader in Samoa, the challenges of progressing infrastructure projects that could be deemed climate infrastructure, was raised. The unsuccessful relocation thus far of the airport road from its current coastal position, and the ongoing efforts to upgrade the Cross Island Road – a project that could support inland relocation efforts in future – has reportedly been drawn out and is highly complex due to the need to appropriately approach and negotiate with all of the different title holders of the land that road is set to cross.

In recent events involving the relocated village of Leauva'a (relocated from Savai'i in ~1905 following a volcanic eruption) and the neighbouring village of Afega in Upolu, Samoa, overt confrontation and property damage has reportedly occurred, including following a ruling on the bounds of the village of Leauva'a and settlement outside of those agreed and documented bounds in Afega land¹. Though these challenges are ongoing, engagement with heads of families from Leauva'a in 2023 revealed their general perspectives that the unique approach to land division in Leauva'a, and the clearly documented internal bounds had contributed to less land related challenges or contention in the village.

In Tonga, land related conflict in the context of mobility and resettlement was said to be less overt, at this stage. In a workshop with Tongan women in March 2023, a subtle tension was highlighted between landowners in places like Kolomotu'a, and settlers or new entrants to the area. One group described living freely on their land, while others were expected to provide payments and gifts to nobles in exchange for residential land. One woman emphasised that this tension would be a likely source of conflict in future. In the future scenarios workshop held in Nuku'alofa in 2023, a few participant groups flagged land conflict risks, particularly between those currently residing in more elevated areas (e.g., Vava'u, 'Eua) and those attempting to relocate there, describing potentially hostile receiving communities, particularly as climate stresses increase and mobility increases in scale. In creative piece of writing by one participant, she described relocating to another village following a strong tropical cyclone and the residents of the new village refusing her family permission to grow food there, spotlighting assumptions around possible land related hostilities in future.

1. *Two Contradicting Court Orders on Afega & Leauva'a Land Dispute - Talamua Online / Supreme Court interim injunction avoids mass eviction of Leauva'a families - Talamua Online*

LAND, SEA AND FOOD RISKS

"The majority of us still depend on the land to live" (Community expert, Samoa)

"The soil is eroding, the seasons are all out. We are months behind on the crops we usually plant... The tractors here can't operate in muddy soil" (Fanau'ifo'ou Akau'ola, Tonga)

"Most people don't work [in the plantations], maybe it's too hot in the sun now? They just want to eat breadfruit because it's easy and grows wild – but now there's no breadfruit, the season is late" (Reverend Aokuso, Samata-i-Tai, Savai'i, Samoa)

"High temperatures are impacting our fisheries... fish numbers are low. The reef is where the fish get their food and it's not growing, just like things on land are having trouble growing... the Ministry can't afford to look after the reef, can't afford to monitor it" (Lord Fohe, Noble and Minister for the Ministry for Agriculture, Food and Forestry, Tonga)

"You see that truck out there loading food? That's going to the diaspora... we send 5,000 tonnes of root crops to the diaspora. In comparison, 1,000 tonnes go to local supermarkets." (Dr Viliami Manu, CEO, Ministry for Agriculture, Food and Forestry, Tonga)

Concerns regarding changes to the land from climate change were prevalent, as were conclusions regarding the impact of these changes on mobility. In a workshop in Apia, Samoa in August 2023, a consultant who specialises in agriculture warned of the growing risks of household food insecurity and if unaddressed, the likelihood that it would be a major driver of climate related mobility in the coming years. The consultant, and a number of others engaged in a future scenarios session in Apia, Samoa in 2023 agreed that many people would seek to migrate from rural villages to urban centres to try to find work if climate impacts threaten their subsistence lifestyle. This consultant was engaging districts across Samoa at the time to put forward a proposal for capital for families to have growing 'tunnels' to protect their crops from climate damage and increase yield for food and income security. In talanoa with a female Matai in Samoa, she shared how having a food growing tunnel has impacted her family's life, that she can now grow plenty of food for her family and has excess produce to sell for income.

One participant in Tongatapu shared that they are months behind in planting their kumara crop in their tax allotment due to unpredictable seasons. They worried that the interruption to their planting sequence will have significant impacts on their household food and income security. As we held our talanoa, families who do not have a tax allotment to grow food were parking outside to purchase the food she and her family had grown; disruption in one tax allotment has food security impacts far beyond one family.

Most concerns regarding climate impacts on the land and sea were in relation to heat, with most in Tonga and Samoa asserting that intense heat was their primary concern. Government, academic and village leaders all shared concerns about heat damage to crops, the inability of many local crops to flower in temperatures above 35 degrees Celsius, as well as heat damage to ocean reefs and the impact on fish population and locations. The CEO of MAFF in Tonga, Dr Viliami Manu, shared that his team's efforts and international partnerships continue to focus on crossing different species of root vegetables with heat resistant strains, as well as trialling different breeds of livestock that can survive higher temperatures. Farmers in Ha'apai and Tongatapu, Tonga shared that root crops sizes are much smaller than they used to be and that the price of these crops had increased due to lower supply. Most agreed that fish catches were also much lower. One farmer who resides in a relatively low-lying urban area in Tongatapu relayed that he had recently leased a piece of land in a more elevated area of Tongatapu as his crops were failing on their current low-lying plot. He also shared that the difficulties this had caused him, and his family was a direct contributor to plans to move to New Zealand. He wished to work and save money to relocate their family home to a more elevated area (Mata ki 'Eua) in Tongatapu in future but struggles to grow food for income prevented him from being able to do this while in Tonga.

These climate changes have had different social impacts in Samoa and has exposed the vulnerability of those without the means to adapt to environmental shifts. A Paramount Chief in Samata-i-tai, Savai'i shared that family practices of taking the canoe out to fish daily had changed given that fish had moved much further out, and much deeper, to escape the higher water temperatures. He reported that now only those who have motorboats could reach the fish, and others must resort to buying fish from the few with motorboat access, putting fish access out of reach for some. In the relocated village of Satitooa, Samoa, families there reported a greater walking distance to the relocated plantation meaning that village members could realistically only tend to their plantation in the early morning before the heat made work unbearable.

Also in Samoa, a village mayor in Leauva'a shared that new rules had been put in place in their village to try to adapt to the heat, including that trees can no longer be felled to make way for plantation land – and crops were now being planted under the shade of trees. Many, particularly in Samoa, shared that they cannot work the plantations like they used to – that while they used to be able to work outside all day, the heat is creating health impacts and people now need to start work very early and finish by 10am – impacting productivity and income for many.

Challenges with climate-related lower food outputs would have impacts beyond the local population in Tonga and Samoa. Food exports to the international Tongan and Samoan diaspora is significant. The CEO of the Ministry for Agriculture, Food and Forestry reported that annually around 5,000 tonnes of root crops are exported to the diaspora while just 1,000 tonnes remain in Tonga to supply supermarkets. In talanoa with Dr. Walter Vermeulen in Samoa, he estimated that over 90% of the best food produced by farmers in Samoa are sent to their aiga in New Zealand, Australia, and the USA. This practice reportedly contributes to a strong sense of closeness, builds loyalty, and supports the diaspora with a healthy diet. In return, the diaspora returns money to support their aiga, to pay homage to the Matai, and to assist with local infrastructure in Samoa. Members of the diaspora shared that having access to food grown in their homeland offers emotional, mental, and spiritual benefits.

Access to sea cucumber also came up relatively frequently in talanoa. Several women in Samoa shared the importance of sea cucumber particularly for the older generations, that it was both a delicacy and a relatively easy and abundant food source historically. One woman in Samoa shared that sea cucumber have important social meaning - being able to provide a meal of sea cucumber to a parent or elder in the family was a meaningful way to demonstrate love and care. Many noted that it is now very hard to find sea cucumber. In Tonga, a senior government leader shared his concerns about sea cucumber stock and the inability of the government to adequately monitor and protect stocks.

In terms of reducing food insecurity risks and supporting resilience through traditional practices, a noble in Tonga, whose estate is in Hofoa, shared how his estate contains the largest colony of kuka mangrove crabs in Tongatapu. He allows all Tongans to access these crabs if they need them for food, or even to sell them to other Tongans, as long as they respect the dignity of his village properties and the kuka fields. He reported that he subscribes to, and lives, the words of the Tongan constitution that 'the sea belongs to all Tongans'.

LAND AVAILABILITY RISKS

"I don't think Samoans will move overseas because of climate change... Land is not an issue here, we have lots of land and it's elevated" (Senior government leader, Samoa)

"People can buy land, but farm land availability in Upolu, especially if you want to grow food, is hard" (Paramount Chief To'omata Tua, Samata-i-Tai, Savai'i, Samoa)

"There are rumours that people are leasing out their land to pay back loans" (Land Expert, Samoa)

"I don't think there will be much availability of land in future... people are leasing land now because of a land shortage. (Fanau'ifo'ou Akau'ola, Tonga)

"I fear that [parts of] Ha'apai will need to be resettled and will create land issues... I've been asking the government not to extend leases. People from overseas, Tongatapu are leasing large portions of land. We need that land for 'Eua... maybe for future resettlement" (Taniela Fusimalohi, MP, 'Eua, Tonga)

"Where will we put people? Will we build up? Or will we need to start negotiations with New Zealand and Australia for land? We will need to go as useful members of society". (Taniela Fusimalohi, MP 'Eua, Tonga)

Land availability risks in the context of future climate mobility were frequently raised, particularly by those in Tonga. General concerns raised around land in Tonga included there not being enough land available for the current population in Tonga, and that many (particularly in Tongatapu) do not have a tax allotment to grow food for their family. Many Tongans, inside and outside of Tonga, raised issues of 'vacant land', held in many cases by overseas diaspora. In talanoa with a senior government leader in Tonga they shared that historically at least, there has been little appetite to claim back this land from diaspora in order to protect the binding ties of diaspora to Tonga and the remittance flows supported by these ties. Similar sentiments were shared in Samoa, with diaspora linking their (financial or in-kind) support shared with aiga in Samoa as a critical means to affirm and secure their sense of belonging to the community and the land of that/their community.

Some leadership in more elevated island groups (e.g., 'Eua) expressed concerns about the lack of planning or land management (e.g., the ongoing issuing of long-term land leases in 'Eua to those not living in 'Eua) for scenarios of greater internal mobility.

In Ha'apai, Tonga, the Governor, Dr Pita Taufatofua shared existing challenges with having insufficient land available to relocate people out of areas facing significant land loss from sea erosion. He shared that people in Hihifo, who have been particularly affected by erosion, have been allocated government land for relocation inland. However, others, like those around Houmatoufua (an old guava field that the Governor believes should probably not have been converted to residential land back in the 1980s) they cannot support relocation for, simply due to the lack of available (government) land. There is reportedly vacant land in Ha'apai, however it would require e.g., in-family negotiation with heirs to make that available.

Alternately, and interestingly, the Governor shared that land exchanges are sometimes facilitated by his office – contacting the heirs of vacant land in Ha'apai and offering a swap for a similar piece of land in Nuku'alofa for instance. Interestingly, the lack of alternate land may be a factor in the (lack) of formal instruction around no-development-zones, with the Governor sharing that some with housing in a newly demarcated no build zone have not been instructed to leave as 'there's just not enough land for them all'.

Outside of Ha'apai, there seemed to be alignment on the relative exposure of the Ha'apai island group to the impacts of climate change, with several government leaders sharing a belief that that land will be [fully] lost. Some went on to consider the flow on effects of this loss for alternate land availability – either in Vava'u or 'Eua. An MP from 'Eua shared that he has been campaigning to prevent future leasing of land to those who do not live in 'Eua, including

those in Tongatapu and overseas, citing that there needs to be forward planning and forward thinking on land availability, including for future inter-island relocation efforts.

A few participants in Tonga referenced the act of Kiribati purchasing land in Fiji for possible future relocation, questioning what options Tonga has (“where will we put people? Will we build up?”) and whether Tonga should be exploring land purchase in Aotearoa New Zealand or Australia. Similar ideas about land purchase for relocation (and economy building) in New Zealand and Australia was also raised by diaspora surveyed as part of this project (see The Diaspora), and in talanoa, one person highlighted the land assets of churches internationally and how this could be leveraged. In kōrero with Professor Linda Smith, she shared her perspective on Pacific displacement and land in Aotearoa “the issue for me is how do Pacific peoples live in New Zealand in relation to Māori, but also have their cultural identities supported and protected. And for me, for that to happen they need place. They actually need land.” Professor Smith admitted that broaching the topic of land in Aotearoa would be very complex, but that generosity would be needed (see Six Kōrero product). Another Māori leader believed that there was a role for Māori to play in supporting land purchase schemes for Pacific people.

Concerns regarding land availability were also identified in Samoa. Generally, the response was that Samoa has ‘plenty of land’ including elevated land and that there is no risk regarding land availability in the foreseeable future. A few participants in Samoa pushed back on this perspective, with one believing that there is a false sense of security about the true availability of viable land, particularly as climate change impacts progress. Another flagged that all land, including inland and upland is already demarcated and earmarked to different families, suggesting that different future land allocation or negotiation scenarios will not be straight-forward.

A Paramount Chief in Samata-i-Tai, Savai’i, To’omata Tua shared that certain land ‘types’ are getting hard to find, particularly food growing land in Upolu, claiming that the block sizes are getting smaller, and quarter acre blocks are the typical size available now, insufficient for growing enough food for a family plus an income. To’omata Tua also shared his beliefs that their land is a gift from God in its elevated position, and he encourages his people to build inland on their plantation blocks (rather than moving to urban areas, including Apia), citing convenience and space. One participant in Samoa – an experienced ex-government employee in the women, community, and social development space, questioned what the conversion of inland plantation land to residential land could mean at scale, and believed this could drive broader issues of food insecurity in future.

In terms of risks of generational alienation from land, one Samoan academic land expert noted that there is talk of some people leasing out their land to pay their loan debts however the scale of this possible practice was not known. In Tonga, one ex-government leader shared their perspective that there is an emerging trend, though still relatively small scale at this stage, of Tongan landowners leasing out their food growing land to non-ethnic Tongans. In response, a Tongan lawyer had reportedly taken to the radio to implore Tongans to consider the true value of their land before entering long term leases or undercharging for those leases. Considering the life of a lease could be 50 years or more, if this practice scales up, there are real risks of (further) land availability issues for Tongans in the medium term, for subsistence, relocation or otherwise.



Loading crops into containers to send to diaspora, Tongatapu, 2023

LAND, SEA VACANCY AND (RE)ACCESS RISKS

“The idea behind Special Management Areas (SMAs) in Tonga was to keep ocean resources for Tongans and protect those resources from foreigners and commercial fishers. But if everyone moves that SMA is open for anyone. When the Mango people all moved I wrote to the Prime Minister the next day asking for it to be declared out of bounds” (Governor Pita Taufatofua, Ha’apai)

“It happened later, but we managed to secure access back to our original village in Savai’i through the land and titles court” (Head of family, Leauva’a, Samoa)

“After we were relocated we couldn’t return for months. We had to apply to be accompanied there. By the time we got back [to ‘Atataa island] all our belongings had been taken” (Woman relocated from ‘Atataa now living in Tongatapu, Tonga)

One of the key takeaways from discussions with Māori leaders (see Six Kōrero product), was the risk of loss of sovereignty on the vacating of one’s land. This risk also of course extends to the land, waters and resources of the surrounding or connected ocean. One Māori leader asked “what happens to the land and moana when they are vacated... And who fills that space... How can Pacific people[s] maintain their sovereignty over spaces that they have vacated?”

Examples of this risk came through in discussions with the Governor of Ha’apai, who shared how he had to act – writing to the Prime Minister to announce closure of Mango’s fishing grounds (Special Management Area or SMA) when the people were evacuated following the Hunga Tonga-Hunga Ha’apai eruption. Two government leaders in Tonga and one in Samoa specifically raised concerns about the general protection of their waters, sea resources and/ or Exclusive Economic Zones from foreign interests in the context of progressive climate change impacts.¹

The challenge of protecting land and people’s assets on sudden displacement or relocation was highlighted by some people from the island of ‘Atataa. One participant relayed that there were assurances that their property would be monitored on their vacation of their land. Per the quote shared above, when they were ultimately allowed to travel back to ‘Atataa many months later they found all their remaining belongings – down to their pots and pans – had been stolen. They expressed frustration both at the protracted process to be allowed to return – this family’s house had not been destroyed by the tsunami – and the lack of follow-through in protecting their remaining assets in that period.

In a meeting with the International Organisation for Migration (IOM) in Tonga they shared that while people’s return to ‘Atataa had not been formally banned and many do travel back for days at a time, the possibility of re-establishing back in ‘Atataa was effectively prevented through government decisions to close critical infrastructure including the school. The ‘Atataa/‘Atataa-si’i Town Officer spoke on this as well, believing that people would return and stay if the church was to reopen, with most travelling and staying on the island between Wednesdays and Saturdays.

In the case of the village of Leauva’a in Samoa – the village established following the partial relocation of an area in Savai’i in 1905 – they shared that return access or rights to their original land had not been negotiated or confirmed at the time of relocation. It reportedly took until 2000 and the intervention of the Land and Titles Court to secure those rights for the families of those who relocated generations ago.

¹ The Leaders of the Pacific Islands Forum on 9 November issued the 2023 Declaration on the Continuity of Statehood and the Protection of Persons in the Face of Climate Change-related Sea-Level Rise which follows on from the 2021 Pacific Islands Forum Declaration on Sea-Level Rise and Maritime Zones. It declares that the statehood and sovereignty of the Members of the Pacific Islands Forum will continue, and the rights and duties inherent thereto will be maintained, notwithstanding climate change-related sea-level rise. Forum Members also commit to protecting persons affected by sea-level rise.

LAND, DECISION MAKING RISKS AND LOCUS OF CONTROL

"There are different rules for those who live on government land, King's land etc... The island next to Mango went back after the eruption, whereas all of Mango was relocated permanently. In Nomuka they were not told to move just given strong instruction to move back from the coast" (Dr Viliami Manu, MAFF, Tonga)

"It came from the top, they are forbidden to return" (Government Representative, 'Eua, Tonga)

"There is flexibility in the land tenure system and customary land laws to accommodate most future scenarios, though it is complex" (Land expert, Samoa)

"Matai titles are being split across generations which makes decision making more complex, and overseas-based title holders adds further pressure... there are more cases in court now" (Academic leader and Land expert, Samoa)

"People are returning to Samoa with outside ideas about land – they want the picket fence, they want to be able to pass it on to their children. That's not how it works here" (Land expert, Samoa)

"I try to advise people [about mobility]... I tell them, this is the land of millionaires, you work half as hard here as you do in New Zealand and you'll be rich... but they don't come to me anymore" (Reverend Aokuso, Savai'i, Samoa)

Recent events in Tonga, including the responses of various decision makers following the Hunga Tonga-Hunga Ha'apai eruption highlights examples of differences in decision making and rules applied around mobility. Following the relocation of the population of Mango, government and village leaders shared that the decision had been made by His Majesty, King Tupou VI that the population was not to return to Mango over fear for their safety (in the event of a similar disaster), however they were able and encouraged to return to their waters to fish. Meanwhile, the relocated population of 'Atataa was allegedly told by the Royal Estate "let them be free, they can stay or go [to 'Atataa]."

One government leader in Tonga shared a further difference, reporting that those on Nomuka island were not relocated at all and simply given strong encouragement to relocate away from the coast to reduce their future exposure to environmental hazards.

In Samoa, academic land experts and village leadership (including High Chiefs and current and ex-Mayors) highlighted the ever-increasing complexity of decision-making around land allocation. Titles are now being split across generations at any given time, increasing the need to negotiate land-based decisions between multiple parties of possible differing interests and perspectives.

One land expert in Samoa shared his perspective that customary land laws afford sufficient flexibility to accommodate most if not all future climate mobility scenarios, though he also recognised that there would remain complexity in processing customary land matters. He reported that he had been asked to work on the standardisation of land allocation decisions to reduce the complexity and drawn-out nature of the decision-making process in the land court, which he described as heavily centred on context. He felt that a standardisation exercise would be difficult given the breadth of customary land rules and the need for context in the interpretation of these rulings (as well), though he thought it may be possible to standardise a limited range of decisions.

In considering the future of land related decision making, Matai, including title holders, can reside overseas and while some do reside overseas, it was reported to have no bearing on the weight of their input. Some hinted at what it could mean as further land decision makers reside outside of Samoa, outside of traditional cultural influences and values. Further, several people in Samoa noted what they suspected to be a trend of return mobility of Samoans from overseas, looking to retire and/or escape the high cost of living overseas to live off the land instead. Some believed this return mobility was introducing western or foreign ideas of land, with some wanting to apply their understanding of land 'ownership' to customary land in Samoa - wanting to pass on land through bloodlines or the family for instance, rather than through allocation via the Matai system.

The researchers explored land decision-making and vulnerability with a few in Tonga and Samoa. Participants believed that in Tonga, women in general would be more vulnerable in a climate-driven high-mobility future given current land laws and the fact that women at best have tenuous land holding rights. While cultural norms of obligation (fatongia) establish that brothers and their children will take care of female relatives, the impact of capitalism and individualism on the culture of Tonga may weaken the concept (and practices) of fatongia (Vaioleti, 2011).

In Samoa, one participant felt that there would be families at risk, particularly those with no representation in the village decision-making process – the Village Council. Alternately (or additionally), one community leader shared that if there are many families who sit under one High Chief, there would likely be families exposed to unfair allocation given connections/relationships etc.



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