# PACIFIC PEOPLES AND CLIMATE-RELATED (IM)MOBILITY:

*A Synthesis Report on Scale, Pattern and Impact,*
***Now and in the Future***

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*Young children walking in the newly-established village of 'Atataa Si'i, Tongatapu, for those relocated from 'Atataa following the Hunga Tonga-Hunga Ha'apai eruption, 2023 (University of Waikato).*

*Cover image: Kwai, located 3km off the coast of East Kwara'ae, Malaita, Solomon Islands (Mana Pacific Consultants).*

# *PREFACE*

This report synthesises the work of the three Pacific-led research teams:

- The University of Auckland, led by Professor Yvonne Underhill-Sem, Dr Tina Newport and Dr Roannie Ng Shiu
- The University of Waikato, led by Lora Vaioleti, Professor Sandy Morrison and Dr Timote Vaioleti
- Mana Pacific Consultants, led by Dr Tracie Mafile'o.

The teams have produced reports drawing along differing scales of inquiry:[1]

- Family (Intergenerational)
- Community
- National
- International
- Regional

The reports draw on in-country fieldwork in Aotearoa New Zealand and nine Pacific Island countries and territories (PICTs): Papua New Guinea, the Solomon Islands, Kiribati, Tuvalu, Tonga, Samoa, Niue, the Cook Islands and Tokelau. Virtual interviews have been conducted with persons in Australia and the United States of America. This has been supplemented by additional research on out-of-scope countries to drive a regional perspective.

The research has been synthesised into this report by Mr Bruce Burson, Dr Evelyn Marsters and Emeritus Professor Richard Bedford. Professor Sandy Morrison has contributed the section on Pacific climate mobility through the lens of Te Ao Māori and obligations under Te Tiriti o Waitangi/The Treaty of Waitangi, in her capacity as Pou for kaupapa Māori within the research programme.[2]

This report, and the broader research programme, was commissioned by the **New Zealand Ministry of Foreign Affairs and Trade** (MFAT), funded by New Zealand's climate finance through the International Development Cooperation (IDC) Programme. These are independent reports – the views expressed here are the authors' alone and do not necessarily reflect the views of the New Zealand government.

[1] A full list of the research outputs, some with hyperlinks, forms Part 1 of the bibliography. Where teams have attributed specific authorship to outputs this is indicated here.

[2] The sythesis team wishes to thank the research teams at the University of Auckland, University of Waikato and Mana Pacific Consulting for their helpful comments on drafts of this report; to MFAT, and in particular, Sarah MacCana and Michelle Sheriff, for their support thoughout prepartion of the report; to Max Oulton for his design of the maps and diagrams which appear in this report; and to Hilary Tolley for her support with copy editing.

# GLOSSARY

| | |
|---|---|
| Average Annual Displacement (AAD) | The average number of people displaced per year due to various hazards. |
| Climate Change-Related Displacement and Migration | Refers to the movement of people in the context of climate change, including extreme weather events and long-term changes in climate patterns. |
| Diaspora community | Diaspora community refers to a group of people who have left their original homeland to various other places around the world. These communities maintain a connection to their place of origin through cultural, social, and economic ties. |
| Hazard-scapes | A dynamic scape, which reflects the physical susceptibility of a place and vulnerability of human life and assets to various hazards in a given human ecological system. |
| IDMC | Internal Displacement Monitoring Centre, an international organisation that monitors and reports on internal displacement worldwide. |
| Indigenous Methodologies | Research approaches that respect and incorporate the values, cultures, and traditions of indigenous peoples. |
| Informal Settlements | Residential areas where 1) inhabitants have no security of tenure vis-à-vis the land or dwellings they inhabit, 2) the neighbourhoods usually lack, or are cut off from, basic services and city infrastructure and 3) the housing may not comply with current planning and building regulations, and is often situated in geographically and environmentally hazardous areas |
| Internal Circulation | The movement of people within their own country, often from rural to urban areas or between regions. |
| Maroro | A specific cultural or research methodology is mentioned in the context of indigenous approaches in Kiribati (specific cultural significance not detailed in the document). |
| Methodological Approaches | The specific strategies or techniques used to conduct research and gather data in the study of climate-related displacement and migration. |
| Net Migration Rates | The difference between the number of immigrants and the number of emigrants throughout the year, per 1,000 inhabitants. |
| Pacific Climate Mobility | The movement of people within and from the Pacific Islands region in response to climate variability and change. |
| Probable Maximum Displacement | An estimate of the maximum number of people who could be displaced by specific disasters or hazards. |
| Relocation | The process of moving people or communities to a new location due to environmental risks or other pressures. |
| Rohe | Region |
| Talanoa | A traditional Pacific Island method of open dialogue, used to share stories and build relationships. |
| Te Ao Māori | The Māori world view, encompassing Māori culture, philosophy, and practices. |
| Te Moana nui a Kiwa | A poetic name for the Pacific Ocean |
| Te Tiriti o Waitangi/The Treaty of Waitangi | A foundational document in New Zealand, originally signed between the British Crown and Māori chiefs, outlining the principles of partnership, participation, and protection. |
| Tok Stori | A method of storytelling and discussion used in some Pacific cultures to share knowledge and solve problems. |
| Transnational | Extending or going beyond national boundaries. |
| Urbanisation | The increase in the proportion of people living in urban areas compared |

| | |
|---|---|
| | to rural areas. |
| Walk the Land | An indigenous research approach involving physical engagement with the environment to gain a deeper understanding and connection. |
| Whakatauki | Māori Proverb |

# ACRONYMS

| | |
|---|---|
| AAD | Average Annual Displacement |
| CHE | Cataloguing Hazardous Event |
| CNMI | The Commonwealth of the Northern Mariana Islands |
| CNZM | Companion of New Zealand Order of Merit |
| COP | Conference of the Parties |
| FRDP | Framework for Resilient Development in the Pacific |
| FSM | Federated States of Micronesia |
| GDP | Gross domestic product |
| IDMC | Internal Displacement Monitoring Centre |
| IPCC | Inter-governmental Panel on Climate Change |
| L&DC | Loss and Damage Collaboration |
| MFAT | Ministry of Foreign Affairs and Trade |
| NIWA | National Institute of Weather and Atmospheric Research |
| NRC | National Response Corporation |
| PACER Plus | Pacific Agreement on Closer Economic Relations |
| PALM | Pacific Australia Labour Mobility |
| PDD | Platform on Disaster Displacement |
| PICTS | Pacific Island Countries and Territories |
| PNG | Papua New Guinea |
| RSE | Recognised Seasonal Employment Scheme |
| SPC | The Pacific Community (SPC) is the principal scientific and technical organisation in the Pacific region |
| UN | United Nations |
| UNDESA | United Nations Department of Economic and Social Affairs |
| UNDP | United Nations Development Programme |
| UNDRR | United Nations Office for Disaster Risk Reduction |
| UNFCCC | The United Nations Framework Convention on Climate Change |
| UNGA | UN General Assembly |
| UNOCHA | United Nations Office for the Coordination of Humanitarian Affairs |
| UoA | University of Auckland |
| UoW | University of Waikato |
| WMO | World Meteorological Organization |
| WW2 | World War Two |

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*"even though they do not specifically say or directly fault climate change, their stories of natural and environmental changes are like a deposition of climate change."* [3]

## Hazards, Settlements and Geography

Pacific populations are distributed across different geographies in villages, towns and cities in different ratios. Recognising geographic variability of settlements at the national, sub-national and, in particular, the community-level is necessary to develop sound policy interventions. This is because **it is at the intersection of local geography and hazards that the exposure of settlements lies, and where the intergenerationally transmitted knowledge and skills of the community of people inhabiting them has been forged**.

Climate-related hazards will increase. The IPCC's Sixth Assessment Report is very clear that there is a greater than 50% likelihood that global warming will reach or exceed 1.5°C by 2040, even for the very low greenhouse gas emissions scenario.[4] That there is now more than a 50% chance that this temperature threshold will be consistently exceeded within the next decade or two is a significant development in the Pacific hazard-scape.

Although this report has been prepared under an Action Plan centred on concern – rightly given the IPCC 's assessment – with the impacts of climate change, the Pacific hazard-scape comprises weather, climate-related and geophysical hazards. While climate-related hazards are a context shaping current and future (im)mobility, a broader approach to hazards and (im)mobility is therefore warranted. Climate-related hazards can intersect with geophysical hazards and shape long-term patterns of exposure of a community. Increasing variability in the weather is affecting traditional gardening and fishing practices in some communities long after they were relocated because of the impacts of geophysical hazards.

It is therefore imperative that any gaps in hazard mapping relation to hazard type, country and/or scale, are addressed.

## The Demographic Context: Pacific Peoples as Populations

### In Aotearoa New Zealand

The combined populations of Māori and Pacific peoples, both with ancestral connections to places in Te Moana Nui a Kiwa, accounted for at least 25% of Aotearoa New Zealand's total population of 5 million in 2023 and over 40% of the country's children under 15 years of age. These shares of the country's total population will go on increasing during the 21st century because of a mix of momentum-led growth (higher than average birth rates) and migration-led growth (more people coming into the country to stay for lengthy periods than leaving for overseas destinations).

As eminent Samoan historian, Toeolesulusulu Professor Damon Salesa, has observed that since the 1960s in Aotearoa New Zealand, "there developed a kind of Pacific archipelago - an archipelago made up of 'islands' ( neighbourhoods, institutions and in some cases suburbs) where Pacific islanders spent much of their lives.

[3] Dr Sione Nailasikau Halatuituia, Study Kāinga, Mango Tonga (Mana Pacific Consultants) p6

[4] Portner, H.-O., et al. (2022) Summary for Policymakers, in *Climate Change 2022: Impacts, Adaptation and Vulnerability,* IPCC Sixth Assessment Report. 8. https://www.ipcc.ch/report/ar6/wg2/

By sheer force of who they were, and with an exuberant connection to their identities and cultures, Pacific peoples made these locations into unabashedly Pacific places."[5]

**Population movement between island groups in the eastern and central Pacific, especially over the past 60 years, has spurred the development of an increasing number of transnationally distributed family groups. Family situated across national borders play an important role in shaping current patterns of (im)mobility within the region. These transnational links will play a major role in a future in which the impacts of climate change will likely feature as an important contributor to the movement of people into and out of Aotearoa New Zealand during the next 30-50 years.**

To better understand future climate migration trends and their social and economic impacts on Aotearoa New Zealand and Pacific Island countries it is appropriate to set the scene with some brief comments about the ***scale*** of Pacific peoples in their island homes and in their transnational communities in other countries.

## The Regional Population

**Any discussion of population change at the regional level in the Pacific needs to acknowledge the distinctive and dominant contribution made by Papua New Guinea's population.** In 1950 the estimated population of Papua New Guinea (1.6 million) was slightly smaller than Aotearoa New Zealand's 1.9 million. Papua New Guinea accounted for 64% of the region's total population of 2.5 million in 1950.

By 2000, Papua New Guinea's population had increased to 5.5 million, accounting for just over two-thirds of the region's population. Aotearoa new Zealand's 3.7 million in 2000 was two-thirds the size of the population of Papua New Guinea. Of the Pacific's projected 19.8 million people in 2050 over three-quarters (at least 15 million) are likely to be living in Papua New Guinea – almost 2.5 times more than the 6.3 million people that could be living in Aotearoa New Zealand by mid-century.

**In 2024, around 80% of Papua New Guinea's population was resident in rural communities. This situation has not changed much over the past 70 years, and is not likely to change much over the next 30 years, despite a continuous stream of people moving from rural areas into Papua New Guinea's inland and coastal towns.**
**In the context of climate change, assistance with programmes addressing critical rural development, health and wellbeing issues and the maintenance of resilient and sustainable village-based livelihoods will continue to be essential in this part of the region.**

Opportunities for Papua New Guineans to participate in labour migration schemes in Australia and Aotearoa have increased significantly in recent years, but these are not going to lead to growth of overseas-resident population of Papua New Guineans that is numbered in the millions. At best, Australia's population of Papua New Guineans might number as many as 250,000 in 2050 (more than 10 times the number present in 2021). This would be equivalent to just 1.6% of Papua New Guinea's projected population of 15 million in 2050.

**The policy implications of population change in the other 20 Pacific Island countries and territories (PICTs) are very different**. Many of them have much higher shares of their peoples living in towns and cities. However, their demographic histories, contemporary population structures, and levels of urbanisation vary considerably, and they should not be treated as a single population for policy purposes. To accommodate this diversity, the region's populations are reviewed in the next section with reference to five clusters.

[5] Salesa. D. (2017) Island Time: New Zealand's Pacific Futures. Bridget Williams Books, p. 10.

**Most of these PICTs also have sizeable transnational communities living in urban places in one or more of Aotearoa New Zealand, Australia and the USA** – communities which provide extensive support to their island-based kin at times of crisis such as after very destructive cyclones or tsunami, or during the recent COVID-19 pandemic. Remittances from overseas have long played a major role in the development of island-based communities and are already making significant contributions to planned relocation schemes in countries like Fiji.

**In 2021, there were at least 1.2 million people identifying with Pacific heritages linked with these 20 PICTs in the three Pacific rim destinations. This was equivalent to 35% of the 3.4 million people living in the Pacific, excluding PNG, in 2021.** Nearly all these countries have variable levels of access to labour migration schemes and residence opportunities in Pacific rim countries. If these opportunities increase because of changes in immigration policy linked with adaptation strategies in the face of climate change, then we might see over 3.5 million people with Pacific heritages linked with these countries resident offshore in 2050. This Pacific transnational population would be equivalent to 78% of the projected population of 4.5 million living in the 20 countries in 2050.

**Notwithstanding this growth in Pacific transnational populations in countries on the Pacific rim, *population momentum* rather than *international migration* is likely to remain the dominant demographic process driving change in the Pacific's population at the regional scale for most of the next 30 years at least**. This is because of the very significant contribution to regional population growth that is made by Papua New Guinea and its two western Pacific neighbours, Solomon Islands and Vanuatu.

## The Diverse Pacific in Five (Im)mobility-relevant Clusters

The 21 PICTs (including Papua New Guinea) have been grouped into five clusters based on several dimensions of their recent and future demographic development, including the access that their populations have to temporary and long-term residence in countries within as well as outside the region – access that is critically important in the context of climate (im)mobility.

The five major "clusters" in the Pacific and their associated "hubs" in the Pacific as well as overseas owe their origins to developments during the colonial and post-colonial eras. A key outcome of this legacy is that citizens of particular groups of countries (clusters) have privileged access to temporary visas for work or study as well as to long-term residence visas either in a particular country (hub) in the cluster, or a hub outside the region.

The five clusters are:

1. The western Pacific cluster (Papua New Guinea, Solomon Islands, Vanuatu)
2. The central Pacific cluster (Fiji, Kiribati, Nauru, Tuvalu)
3. The eastern Pacific cluster (American Samoa, Cook Islands, Niue, Samoa, Tokelau and Tonga)
4. The northern Pacific cluster (Guam, Federated States of Micronesia, Marshall Islands, Northern Mariana Islands, Palau)
5. The French territories cluster (French Polynesia, New Caledonia, Wallis and Futuna)

These clusters have variable patterns of population growth and urbanisation, differences in population structure, variations in fertility and mortality levels, and differential access to work and residence opportunities in countries on the Pacific rim.

Three quite distinctive patterns are evident in the trajectories for their population growth during the 21st century. The first is the trajectory for the western Pacific cluster where the population is projected to treble

in size from 6.1 million in 2000 to 21.5 million by 2100. Most of the growth in the Pacific's total population will occur in this cluster because of a combination of high levels of natural increase and comparatively low per levels of net migration loss to overseas destinations. The net migration losses will increase, but they will be numerically small by comparison with the additions to the population because of natural increase.

The second trajectory is much more modest population growth in clusters that include the two most advanced industrial economies in the region – Fiji in the central Pacific cluster, and New Caledonia in the French territories cluster. Both these countries are hubs for migrants from other parts of the region, especially countries in their clusters. They have much lower rates of natural increase than are found in the western Pacific because of declining fertility and variable histories of net migration losses to countries outside the Pacific region.

The remaining two clusters – eastern and northern Pacific – have the lowest projected population growth due to a combination of net migration losses, especially to countries on the Pacific rim, and variable histories of fertility decline. The populations in these clusters, as well as in the central Pacific and French territories clusters, are projected to be experiencing absolute population decline before the end of the century. This is in contrast to the western Pacific's population which will still be growing in 2100.

Some key points relating to the five clusters are summarised below.

### *Western Pacific cluster*

The populations in the western Pacific cluster all have youthful age-sex structures which are the product of sustained high fertility rates over the past 50 years. Fertility is declining but this does not mean that absolute numbers of children are falling. Between 2020 and 2050 the number of children aged 0-14 years in the western Pacific is projected to increase by around 600,000 (16%) from 3.8 million to 4.4 million. Over the same period the younger workforce (15-29 years) in the western Pacific is projected to increase by just over 1 million (38%) even though its percentage share in the total population will decline from 28% to 25%.

These numbers relating to the scale and pattern of population change in the younger population are significant in the context of climate (im)mobility because the children, obviously, are the future labour force, and those in the younger working age groups are the most "mobility willing" according to surveys carried out amongst Samoans and Tongans.[6]

If the younger adult population is amongst the most mobile component of a population, the older population (65 years and over) tends to be the least mobile – the "steadfast stayers". This was reinforced in findings from the surveys, community and family studies, and their share of the total populations in all clusters is increasing. In the western Pacific they comprised only 3% of the total population in 2020, but by 2050 this share will have more than doubled to over 7%, and 50 years the older population will almost equal the young adult's share in the population.

**This is an important finding because, at the same time that communities and policy makers are coping with the mobility of increasing numbers of young adults, they will be simultaneously addressing issues associated with preferences for staying in place amongst the older population**.

Coping with climate change will be managed in rural settings rather than towns for the great majority of people in the western Pacific. This is despite the estimate that over two-thirds of the 5.8 million people projected to be living in towns in 2050 in all of the Pacific countries are likely to be living in urban places in

[6] See Vaioleti L. et al (2023b) and Vaioleti T. et al. (2024).

the western Pacific. Only 25% of the western Pacific's total population in 2050 is projected to be living in towns.

**The distinctive features of the western Pacific's youthful population structure and predominantly rural distribution are given further policy relevance by the fact there has been little opportunity for people from this cluster to move overseas either on visas for temporary work or study, or long-term residence in other countries. Less than 1% of the combined in-country and overseas-resident populations born in the western Pacific around 2019 were living overseas.**

**In the absence of extended families that include overseas residents, options for mobility to countries on the Pacific rim, as a response to impacts of climate change, are much more limited for residents in the western Pacific cluster than for those who have transnational kin networks.**

International migration outlets for citizens of countries in the western Pacific are increasing, especially in Australia. But the recently announced Pacific Engagement Visa (PEV) will have limited impact on responses to climate change at the national level given the sizes of the populations in these countries and their ongoing high rates of natural increase. Mobility decisions taken in response to impacts of climate change will, by necessity, have to continue to favour consideration of destinations within these countries, at least through to 2050.

### *Central Pacific cluster*

The reason for grouping Fiji, Kiribati, Nauru and Tuvalu as a cluster is because they have some distinctive links associated with their colonial heritages that have the potential to be very significant in the context of climate (im)mobility. There are some similarities in the trajectories of population change in the four countries. All populations have been experiencing declining fertility, partly in response to government-sponsored family planning programmes that date back to the 1970s, particularly in the cases of Fiji and the former Gilbert and Ellice Islands Colony (now Kiribati and Tuvalu). In addition, international migration has played a much more significant role in shaping the age structures for the central Pacific cluster than has been the case in the western Pacific.

**Fiji is an increasingly important hub in the Pacific – it is the major destination for intra-Pacific migrants seeking employment, education and residence in the region and is a prominent source of skilled migrants to other Pacific states**. Its airline, Fiji Airways, is also the largest provider of international air services linking countries in the region and on the Pacific rim. Fiji Airways and, at times, Air Nauru, are the only airlines that provide regular services to Kiribati and Tuvalu.

These four countries are linked by another legacy of colonialism in the central Pacific – phosphate mining on Nauru and Banaba (Ocean Island) in Kiribati by the British Phosphate Commission. The phosphate industry on Nauru and Banaba provided employment for thousands of I-Kiribati and Tuvaluans for several decades, cementing long-standing connections and relationships between the three coral countries.

To enable expansion of mining into village sites on Banaba, Banabans were resettled on Rabi Island in Fiji the late 1940s. The relocation of the Banabans was followed by the purchase of a neighbouring island, Kioa, in Fiji by community leaders from Vaitupu in Tuvalu in the late 1940s to provide a safety valve in the event of population pressure on the limited land resources of their atoll.

**Fiji thus has long-established I-Kiribati and Tuvaluan communities, and has been a very significant source of education, health and international air transport services to the populations of these two countries especially since they became independent states in the late 1970s.** These relationships have been strengthened further during the past 15 years through the purchase of land on Vanua Levu in Fiji by the

Kiribati government as part of a long-term strategy to secure homes for I-Kiribati who may have to leave their islands because of damage caused by climate change. A commitment has also been made by Fiji's former Prime Minister to provide support with resettlement if required in the future.

In addition to these strong historical and contemporary links, the countries in the cluster all have at least 50% of their populations living in towns and they all have sizeable transnational dimensions to their populations. **In contrast to the countries in the western Pacific cluster, populations in the central Pacific have had some access to work and residence opportunities overseas for many years.**

**In this context, they have more options regarding movement overseas as a strategy for coping with climate change**. They also have significant flows of remittances, goods and information from overseas kin. But their transnational populations are small in proportional terms by comparison with those that are found in the eastern Pacific – the cluster where the overseas components of their populations are all much bigger than the island-resident components.

### *Eastern Pacific cluster*

Five of the six countries in the eastern Pacific cluster have long-standing links with Aotearoa New Zealand that have facilitated considerable temporary as well as residential migration, especially since the 1960s. The remaining one, American Samoa, is an Unincorporated Territory of the United States of America. The latter has been included in the eastern Pacific cluster rather than with the other US-aligned PICTs north of the equator because of indigenous cultural connections with Samoa.

As a result of these connections, Samoans especially, but also many Tongans, have taken advantage of employment opportunities in American Samoa and on the west coast of the United States more generally. The very large Samoan and Tongan transnational populations in the United States owe their origin, in part, to connections established via American Samoa.

**Migration to countries on the Pacific rim, especially Aotearoa New Zealand and the United States, has had a major impact on population growth through net losses of people in the working and reproductive age groups. The loss of young men and women to long-term work and residence overseas represents a transfer of their potential contribution to reproduction to the populations of their host countries.** This has had a particularly significant impact on the population structures of the Realm countries, which all experienced major net losses in population during the 1960s and 1970s.

While the eastern Pacific cluster is projected to continue to experience population growth between 2020 and 2050, the overall increase will be small. Over the 30 years the SPC projects the eastern Pacific cluster's population will only increase by 23,000 or 6% to reach around 380,000 in 2050. The UN's projections are more optimistic, especially for Samoa and Tonga, giving the cluster an overall increase of 120,000 or 23% to reach a population of just over 500,000 in 2050. The SPC's projections are likely to be more reliable in this case, especially for Samoa and Tonga. Ongoing declines in fertility, and the likelihood of accelerated net out-migration as a response to climate change, favour the more conservative estimates of population growth for these PICTs.

Surveys of recent and planned migration amongst Samoans and Tongans provided evidence that climate change is already influencing decisions to relocate elsewhere internally as well as to overseas destinations. These surveys, as well as community and family studies in the eastern, central and western Pacific, provided clear evidence that climate change would become an increasingly important driver of residential mobility. Within countries in the cluster, migration from rural to urban areas is expected to increase.

While around two-thirds of the total population in the eastern Pacific was living in communities classified as rural around 2019, this gives a rather misleading indication of the level of urbanisation of people in this cluster. **The long-standing, albeit variable, access members of these populations have had to overseas destinations since the 1970s means that all the countries in the cluster have significant transnational populations that are heavily concentrated in towns and cities in Aotearoa New Zealand, Australia and the USA.**

When the overseas components of Pacific transnational populations are taken into consideration, it is clear that Polynesians from the eastern Pacific have a much higher level of urbanisation than assessments of population distribution within the island countries suggest. **The strong connections between the island-based and overseas-based components of Pacific transnational populations have been one of the defining features of their social and economic transformation, especially since the 1970s. A transnational rather than a national frame of reference is required when considering the impacts of climate change on populations in the eastern Pacific cluster.**

### *Northern Pacific cluster*

The five PICTs north of the equator comprise a long-established cluster with strong connections to the United States. There is also extensive in-migration of labour from countries in Asia to parts of this cluster to compensate for the net losses of the indigenous populations to the United States. This migration-led "churn" in the population has affected fertility rates as well as the shares in the working age and older population groups.

The PICTs in the northern Pacific have all experienced significant declines in fertility since the 1950s and all were expected to reach sub-replacement fertility before 2050. They all have much higher percentages in the older age groups than are found in the western, central and eastern clusters and this also reflects lower infant mortality rates and higher life expectancies at birth especially in Guam and the Northern Mariana Islands where there are large immigrant populations.

Populations in the northern Pacific have much higher levels of urbanisation than those found in the clusters south of the equator. In 2018 only 28% of the northern Pacific's population was rural-resident and by 2050 the UN expects this share to have dropped to 23% -- the reverse of the situation in the western Pacific cluster. Like the situation in the eastern Pacific, there are large overseas-resident Micronesian populations in the United States, and these are mainly concentrated in urban areas.

**Looking ahead, the populations in the northern Pacific are likely to continue to have a preference for residence overseas in the United States of America rather than in countries on the southern rim of the Pacific**. There are also strong economic and historical ties between several of these countries and countries in northeast and southeast Asia. **There are no transnational populations from this part of the Pacific of any size in Australia or Aotearoa New Zealand at this stage.**
In this context, it is interesting to note that the Australian Government has recently granted small PEV quotas (50 each) to Palau and the Federated States of Micronesia, with an offer on the table for the Marshall Islands. This is the first time a country on the southern Pacific rim has included countries in the northern Pacific cluster in an immigration policy that targets specific countries or regions.

### *French territories cluster*

These three Pacific territories have been grouped as a cluster because of their distinctive, ongoing, status as collectivities of France. Indigenous populations in these widely distributed island groups have French citizenship by right and, theoretically at least, can live in France if they choose to leave their island homes in the Pacific.

The structure for the total population of this cluster is quite different from that for the other clusters, with much higher shares in the 65+ age group. This is due to the presence of large non-indigenous populations in New Caledonia and French Polynesia which have older age structures and lower fertility than the indigenous populations. In the French territories the youthful working age population aged 15-29 is projected to decline by just under 10% during this period while the 65+ population increases by 87%.

The percentage of the population living in urban areas in the French territories ranged from around 71% in New Caledonia to 0% in Wallis and Futuna in 2018. There has been considerable migration between the French territories and there are sizeable communities of Polynesians from Wallis and Futuna in New Caledonia and French Polynesia. It is very difficult to get data on the Pacific-born populations living in France so it is not possible to say how extensive the transnational populations of the collectivities are.

There were small populations born in New Caledonia (310), French Polynesia (470) and Wallis and Futuna (10) in Aotearoa New Zealand at the time of the 2018 Census of Population and Dwellings. These are the smallest Pacific-born populations from countries in Melanesia and Polynesia in Aotearoa New Zealand. **While the three territories remain colonies of France, it is unlikely that their locally-born populations living in countries on the Pacific rim will grow rapidly, although climate change in the region may lead to more Polynesians especially seeking access to work and residence in Aotearoa New Zealand.**

There are strong ancestral and contemporary connections between island groups in French Polynesia and the Cook Islands, and it was Polynesian navigators from this part of the eastern Pacific that brought the ancestors of Aotearoa's indigenous Māori population to this country. A Tahitian navigator, Tupaia, also played a major role is helping Captain Cook "discover" Aotearoa in 1769.

**The cluster and hub approach, which is used to define the five sub-regional clusters, ensures that the transnational dimension of Pacific populations is always acknowledged in the analysis. This is something which all of the research teams have given careful attention to in their studies of families, communities, and populations of particular countries and the overseas components of transnational populations.**

## Relationality and Transnationalism as Key Policy Frames

**Relationality and transnationalism** are essential concepts for understanding and addressing (im)mobility in the context of climate change in the Pacific. These interconnected concepts, and the relationships and cultural practices which they reflect, provide the most appropriate framework for developing effective policies that ensure that Pacific communities are better equipped to navigate the challenges posed by climate change. Honouring these values and integrating them into policy-making is critical.

### Relationality in the Context of Pacific (Im)mobility

**Relationality refers to the interconnectedness of individuals and communities to people and to 'place', and how these relationships shape identities and social dynamics.** It encompasses cultural, familial, and community connections, characterised by a deep connection to family and land, waters, ecosystems, traditional values and practices. Understanding and supporting these relational dynamics are crucial for developing effective policies to address climate-related mobility in the Pacific region. Relationality in the Pacific will continue to be a dynamic and evolving concept, deeply influenced by climate change and mobility patterns. The interconnectedness of people, land, and culture will remain central, with policies needing to respect and preserve these relationships. As Pacific peoples adapt to new environments, their relational ties will evolve but remain a fundamental aspect of their identity and resilience.

**It is not possible to separate people from 'place' in the Pacific context: people are place. Nor is place simply land.**

'**Place' for Pacific peoples is multifaceted**. Place is at once: an expression of belonging – what the 'being' in 'human being' means for Pacific peoples; a site of connection to the tangible – to land (including people, past and present), ocean and sky, to flora and fauna, and to language and culture – as well as the intangible – to values, faith and protocol; the site of everyday life and activity where traditional knowledge and practice drives resilience; and a source of spiritual and emotional sustenance and wellbeing. Understanding the multifaceted nature of place is important as it explains why 'staying in place' features prominently in current pattern and will continue to do so in the future**.** It makes very clear just how profound loss and damage to place is and why a place-based approach to assessing loss and damage is called for.

**'Place' is also dynamic**. Pacific peoples have long moved from 'place' to 'place', the oral traditions of whom tell of movement to form new settlements in new places stretching back centuries. Pacific peoples do not separate from their land and kin of origin when they migrate. Instead, they aim to grow 'family' in new contexts, creating another home while maintaining connections with their original homes. This dynamic formation of additional or new 'place' continues. This dynamism includes Aotearoa New Zealand. Although the movement of Pacific peoples to Aotearoa New Zealand and elsewhere on the Pacific rim at scale is a relatively recent phenomenon, this means transnationally distributed family/kin groups have relationships with more than one 'place' and along some or all of these dimensions.

**In the specific context of Aotearoa New Zealand, the relationship with Māori becomes significant. Māori also are a place-based people. Marae or meeting spaces within tribal boundaries stand as testament to these physical and spiritual connections to place. In a climate mobility context, marae could play a critical supporting role in the initial and ongoing response as well as possible longer term integration support.**

**Relationality to both people and place in Pacific communities means an intergenerational or multigenerational framework for examining climate-related (im)mobility in is necessary**. This requires recognising the family and community as basic units of analysis, as well as the nation, and facilitates incorporation of the variable time-scales; i.e., the time over which population processes and climate processes play out, intersect and have impact on communities, families and households in ways which influence decisions to stay/and or move.

Policies need to integrate climate (im)mobility with other forms of mobility, considering local conditions, cultures, and contexts. This integration will help maintain relationality by ensuring that policies are sensitive to the interconnectedness of Pacific peoples with their place and each other. In this regard, stories play a crucial role in capturing the cultural connectedness between land, sea, and people. They highlight Pacific resilience and the evolving traditional practices adapting to climate change. This storytelling will continue to be vital in policy-making, ensuring that relationality is respected and preserved in new policies.

**Relationality means movement elsewhere is collective in nature, relationally connected to allowing more people in the form of other family members (often the elderly and the very young at a minimum) to stay in place**. Another important dimension of 'move-to-stay' mobility, characterised by what has been described as a process of dual-mobility, is that movement abroad, even for an extended period of time (10-15 years), can be part of a deliberate strategy to fund longer-term internal relocation in home islands. These various processes of 'move-to-stay' underscore how, in the Pacific socio-cultural context, (im) mobility-related policy is best developed from a family/community-oriented perspective.

Mobility in response to climate change is unlikely to involve complete abandonment of localities. Circular mobility patterns, where people move but maintain connections to their original homes, will keep cultural ties alive. This pattern will ensure that relationality remains a core aspect of Pacific life, even as people move

for extended periods of time through migration or relocation. This will mean that policy interventions in one country will impact in some way on family members in other countries.

## Transnationalism in the Context of Pacific (Im)mobility

Transnationalism refers to the dynamic and interconnected relationships that Pacific peoples maintain across national borders. Transnationalism in the Pacific is driven by both traditional values and characterised by strong family and kinship networks, circular mobility patterns, economic and material support, and cultural and traditional practices. These elements collectively ensure that Pacific peoples maintain their connections across borders, supporting each other in the face of climate change and other challenges.

There is a greater need for policies that facilitate integration and support connections, across national jurisdictions, giving emphasis to circular mobility patterns where individuals maintain homes and connections in multiple locations. Enhanced bi-lateral, regional and international policy coordination is essential.

**Key aspects of transnationalism include:**

**Family and Kinship Networks**: the research highlights the importance of family and kinship networks in mobility decisions. Families often move as units, and those who migrate maintain strong ties with those who stay behind. Pacific transnational networks play a pivotal role in shaping decisions about whether to move in response to climate challenges or to stay and adapt. These networks, woven through families and communities that span across borders, are not just social constructs but pathways that influence economic opportunities, cultural preservation, and personal choices in profound ways. The transmission of information includes the sometimes harsh realities of international migration as well as the impacts of climate change in the other places where transnational kin reside. Building awareness of what international migration involves on the part of those moving and those hosting is an important element of transnational relationships.

**Obligation and Reciprocity:** Pan-Pacific concepts emphasise the obligation to support family members both locally and abroad. They illustrate the reciprocal flow of value and obligations within families and communities. This flow of value is central to ways of life in the region, and also influences mobility decisions.

**Economic and Material Support**: substantial proportions of the diaspora send money, building materials, and household appliances to family members in their home countries. This economic support is crucial for both immediate needs and long-term resilience against climate impacts. They also host family who move.

**Transnationalism in the future will be characterised by increased climate-related mobility**. As environmental and ecosystem changes continue to impact the Pacific region, decisions at the individual, family, household, and community levels will increasingly factor in climate change. This will likely lead to more frequent and complex patterns of transnational movement which change the transnational distribution of family group members.

Traditional values and practices will continue to play a significant role in shaping transnationalism. Values which emphasise obligations to family and community will influence how people move and settle across borders in the future, as well as the scale and forms of support. Future transnationalism will continue to involve maintaining strong ties to both the home country and the host country, facilitated by these cultural values.

**As transnationalism becomes more prevalent in the context climate change and other factors, there will be a greater need for policies that facilitate the integration of migrants while also supporting their connections to their home countries**. This could include financial support, legal frameworks, and community

programmes that recognise the dual nature of transnational lives. Policy responses to climate change-related mobility need to be integrated and coordinated with other mobility policy contexts. This implies that future transnationalism will require more robust regional and international cooperation to address the multi-causal but interconnected nature of future migration patterns.

## The Driver of (Im)mobility, Now and In the Future

**It is the intersection of localised population pressure, tenure (land and marine), and food/water insecurity which has shaped the scale and pattern of past and current (im)mobility, and will shape the scale and pattern of future (im)mobility arising in the context of climate change.**

**These factors not only intersect but are highly interdependent. It is tenure which determines access to the food and water resources necessary for sustenance. The size and age-sex structure of localised populations at any given time will place a particular demand on systems of tenure and governance. This demand is amplified when localised population trends outpace the capacity of local tenure systems, and the access to water and food resources they govern, to cope. Such coping capacity will be undermined by future changes in the environment – including degradation and biodiversity loss and whether linked to climate change or not – and by this means affect the scale and pattern of future mobility by shaping decisions at the household and family levels around whether to continue to stay in place, or whether to move.**

### The Driver and (Im)mobility Decision-Making

The research demonstrates that at household and community scales, concern about the current and anticipated impacts of climate change are beginning to influence decisions at the individual, family, household, and community levels about whether, who, when, and where to move away from their 'place'. **In other words, climate change-related (im)mobility is already a present reality, making it a current policy issue rather than a future one.**

While climate change is not the sole context for many migration decisions, it is becoming an increasingly important factor alongside more typical considerations of socio-economic betterment. **The clear implication of the research is that as Pacific peoples continue to experience environmental degradation and biodiversity loss in a warming world, their lived experiences will increasingly factor climate change into household and community decision-making processes.** Increased climate-related mobility is leading to more frequent and complex patterns of transnational movement, resulting in dynamic and interconnected forms of migration and settlement.

That the interconnected driver will influence (im)mobility is predictable. Quite what this means in terms of future scale and pattern is less predictable. Nevertheless it is reasonable to expect that, should the localised impacts of such climate change undermine food and water security at the household and community levels, these impacts will increasingly feature in decision-making, including a decision to move some or all family members to another location.

The following will be important to have in mind.

1. **The localised experience of national-level population trajectories is important**, **particularly the burgeoning youth and aged populations.** In communities in which the population is or will become skewed towards older cohorts, this will likely impact how much staying in place features. For those skewed towards the youth, the trajectory brings into focus the capacity of land and marine tenure arrangements to peacefully absorb current and future growth in demand for resources.

The research has identified five mobility relevant sub-regional groupings, as opposed to the more traditional grouping of Melanesia, Micronesia and Polynesia. Within and between these groupings both the quantum and distribution of youth in the Pacific will be different in the future. Yet, like their parents, grandparents and ancestors before them, the current and future Pacific youth population will be confronted, to a greater or lesser extent depending on their community, with the same interdependent factors which have shaped (im)mobility.

Existing practice will be adapted, and new practice may well emerge to meet future environmental challenges and become tomorrow's 'traditional' knowledge and practice. Yet, given the current trajectory of carbon emissions, impacts of climate change-related hazards will, alongside other hazards, increasingly intrude on (im)mobility decision-making.

What this means is that, in the western Pacific, many more young people will be trying to live on their own land in inland villages under increased climate change conditions. Increasing opportunities in towns, freeing up agricultural land, and increasing pathways to travel abroad, must therefore be important policy objectives.

The challenge for policy in the western Pacific cluster is how to support rural communities to simultaneously cope with demand for access to land for farming, as well as for mobility options, from increasing numbers of young adults, while addressing issues associated with preferences for staying in place amongst the older population.

In other clusters the population-related challenges are more likely to be linked with increasing urbanisation of populations both internally and overseas. Young adults are seeking livelihoods based on cash earnings rather than subsistence production and increasing numbers are seeking opportunities for work in towns. Where there are large overseas-based components to the cluster's population, international mobility has become part of the way of life in Pacific transnational families.

It is also important to recognise the importance of 'stay-to-move' mobility. Today's 0-4 year olds are tomorrow's students, workers and, potentially, migrants – whether internal or international. The willingness, and ability, of a youthful population to move elsewhere for study, for work, for marriage will shape not just their own contribution to future scale and pattern, but also the contribution of others, for whom their movement enables continued stay.

2. **Everyday action of households and communities will continue to provide resilience.** Communities will innovate indigenous knowledge and adapt traditional practice to meet changing environmental conditions impacting their site or sites of settlement, as they have done in the past. These conditions will be shaped, depending on the geography of their settlement, by exposure to weather, climate and/or geophysical hazards.

**The degree to which this every day resilience is maintained and enhanced – including though external support as required – will have a direct bearing on the scale and pattern of future (im)mobility by dampening the effect that climate change would otherwise have on food and water insecurity and thereby easing the impact of a local population pressure.** This means more people will be able to choose to remain in place for longer.

The maximum scale of staying in place will continue to be delineated by the population-absorptive capacity of land and marine tenure arrangements.

3. **Future scale and pattern will be influenced by information around anticipated climate change impacts across different 'places'.** While decision-making is likely to remain at the household or family level (including family members living beyond national borders), it will continue to be influenced by discussions that are occurring at the community level. The extent to which information around future climate change flows into community level governance structures, and is transmitted to households in village meetings in digestible form will, alongside the lived experience of environmental change, shape perceptions of risk and influence – at least for some – the decision around whether some or all of a family unit continue to stay in place. This means investing time in understanding and supporting traditional governance structures and leadership.

4. **Reflecting both relationality and transnationalism as defining characteristics of Pacific peoples, families will continue to be first responders and the primary support mechanism in cases of future (im)mobility**. The extent to which families are supported by well-designed policy to fulfil these functions will influence how these forms of movement impact not just those moving, but also the wider family unit.

5. **Changes in immigration policy in the main destination countries within the region as well as on the Pacific rim will have an impact on the scale and pattern of population movement**. Fiji and Australia have merged as Pacific migration 'hubs', alongside the established hubs of Aotearoa New Zealand, the United States of America and France. This development is important as it has increased the volume of migration policy nodes around which international migration in the context of disasters and climate change might occur. There is now a more variegated landscape for immigration policy. The future scale and pattern of (im)mobility will thus be shaped by the degree to which the migration policy settings of the various hubs reach into one of more of the five sub-regional clusters and the extent to which any particular PICT is represented in more than one policy setting.

## Scale, Pattern and Impacts of Climate (Im)Mobility, Now and in The Future

The language of (im)mobility, as it commonly appears in policy debates and academic discourse, is not of the Pacific. Terms such as 'trapped populations' or even 'involuntary immobility' do not reflect a Pacific understanding of relationality to place. Further the decision to stay in place will often result from a weighing of factors, which may not neatly fit into a voluntary-involuntary binary.

In late 2023, Pacific Island Forum Leaders adopted the *Pacific Regional Framework on Climate Mobility*, signalling unequivocal recognition that (im)mobility in context of disasters and climate change is an issue of regional significance. The Framework identifies various forms of (im)mobility: staying in place, displacement, migration and relocation. While these descriptions serve an important purpose in signalling the trajectories for future regional cooperation in relation to different archetypes of movement, the research reminds that, **from the perspective of relationality, both current and future scale and pattern of (im)mobility exists as a continuum**.

In other words, all forms of (im)mobility referenced in the Framework – staying in place, displacement, migration and relocation – are present at any time, albeit at different scales. While separated in this report in order to align with the architecture of the Framework, and to capture a sense of scale, pattern and any movement-specific issues, these are best regarded as existing along a continuum of experience and are intrinsically connected.

By this we mean that some, but far from all Pacific people, experience these different forms throughout their life cycles. Scaling up, all forms exist side-by-side within families and communities. Again, this is not to say all families and all communities experience all forms. At the local scale, there is variation. But, once we telescope out to the national and regional level all forms are present to some degree. However, the extent

to which international migration features along the continuum of experience is the most variable given differential access to overseas destinations at national and sub-regional (cluster) levels.

## Staying in Place

The multifaceted nature of place means not moving is unarguably the most common element of current pattern. Despite environmental challenges linked to climate-related hazards, many communities show a steadfast commitment to their ancestral territories, preferring to stay. This will be no different in the future.

Where staying in place is of an involuntary nature – for example through a lack of financial or of social capital in the form of having family networks elsewhere – the future scale of staying in place will depend on the extent to which these barriers are reduced though policy. Where staying in place is predominantly voluntary, the key policy challenge will be how to best support family to stay, particularly should food and water insecurity ramp up over coming decades because the impacts of climate change outpace the ability of communities to cope through innovating traditional practices.

Staying in place will continue to exert a powerful influence on future scale and pattern because it is the site where everyday resilience is practiced. This may become even more true, given the understanding that other places to where movement might occur will also be exposed to hazards.

Community-tension, arising from the intersection of land tenure and localised population pressure (density and increases), exists already and can have an intergenerational element. Land and marine boundary issues are the most common sources of conflict, arising regardless of the settlement type. More geography-specific sources of conflict are also present. These concern access to foreshore and the sea for coastal high island settlements, and the pressure of increasing population on some atolls, and in coastal and highland settlements.

It will be essential that community-level conflict resolution mechanisms are supported.

## Displacement

**Obtaining a true sense of the scale of displacement is difficult in the Pacific**. Many survival displacement events occur far from administrative centres, are localised (such as from landslides) and of relatively small scale. Nevertheless, the adverse impacts of these micro-displacements can be substantial for the affected population. Disaster displacement in PICTs tends to be underreported because of a lack of dedicated and skilled capacity, insufficient data and poor information governance. Addressing data issues will be important minimising displacement and its associated impacts.

Nevertheless, the evidence is clear that displacement does occur at scale, albeit with variability. Urban displacement is a feature of current pattern. Poor urban planning and poor housing exacerbates climate risk and increases the scale of displacement. Repeat displacement can feature, although urban displacement tends to be highly localised and typically of short duration. Consistent with relationality, family (and friends) were typically the primary source of support, including providing accommodation.

Displacement will continue to feature and will likely increase. The scale of increase is uncertain, in part because of a lack of accurate baseline data of current levels of displacement. The report summarises some recent country level projections of future scale of displacement prepared by IDMC. These projections are expressed in terms of a 'probable maximum displacement' over different return periods and an 'average annual displacement'.

Apart from giving an indicative sense of the scale of future displacement in certain PICTs, the projections demonstrate the uneven nature of hazard mapping within countries. Volcanic eruptions and landslides do not feature as specific hazards for which modelling was undertaken, despite each driving often substantial and protracted displacement. The projections are also notable for capturing the many areas where insufficient data has been available for modelling to occur.

A lack of relevant data was mentioned by both Kiribati and Tuvalu in their reports to the recent mid-term review of the implementation of the Sendai Framework on Disaster Risk Reduction 2015-2030. For both countries, this has acted as a constraint on progress towards reducing the numbers of persons affected by disasters – including through displacement – one of the targets of the Sendai Framework. Addressing such data challenges will be central to developing displacement-sensitive policy and driving down disaster risk more generally.

## Migration

The research which underpin this report, led by Pacific and Māori researchers using methodologies anchored in indigenous ways of understanding relationships between people and place, has made it very clear that when population movement is viewed through an intergenerational or a multigenerational lens, **circulation between places, rather than migration from one location to another, remains the dominant form of movement**. The daily circulation of people away from and back to the place of residence associated with their everyday lives in villages and towns within Pacific countries, as well as in places of residence in other countries, is the most obvious form of voluntary circular mobility. Closely linked with this everyday movement are less frequent circuits, often associated with particular types of economic and social activity, most commonly within countries, but also to other places that are separated by the invisible boundaries between countries in the Pacific that are a legacy of colonialism in the region.

**Intra-Pacific migration is more extensive than often appreciated**. Key groups that can be identified in the flows into Pacific countries from other Pacific countries include people born in hospitals in other Pacific countries and flows of labour into major industries in selected countries. It should be noted, however, that the country with the largest extractive industry base in the region, Papua New Guinea, had very small in-migrant flows from other Pacific countries. Another key group in the intra-Pacific flows is skilled labour from Fiji, especially teachers, medical personnel, security personnel, retailers, seamen and a wide range of people with specialist trade skills. The other important group of overseas-born in-migrants in selected Pacific countries includes members of resettled communities from Kiribati and Tuvalu in Fiji, Solomon Islands and Niue.

Tracking the circulation of labour between Pacific countries is being compromised by a trend towards publishing less information on the birthplaces of the populations enumerated in censuses. This data gap hampers delivery of effective policy to support those moving, as well as support for the destination countries where they move to.

The research as a whole cautions against over-generalisation of migration responses to climate change. Policy responses to climate change require approaches that are very sensitive to local conditions, cultures and contexts. They also require appreciation of the continuing importance of *circulation* of people between places where they have resources, family members, and opportunities to achieve important economic and wellbeing goals.

**Migration in response to climate change is unlikely to involve complete abandonment of particular localities for most movers**. Circular mobility patterns will keep "the fires burning" for future generations in places that have cultural significance for the movers and their multigenerational families. Even should abandonment be necessitated by catastrophic changes in the local environment, return by smaller groups

of people to reconnect with such places to draw spiritual and emotional sustenance will likely feature at some scale in the future.

**While internal or international migration will remain circular in character, the scale, periodicity and duration of circulation will vary over time** depending on the location of settlement in the PICT, the particular circumstances of the family unit (including its age-sex structure) and, in the case of international migration, the immigration and social policy settings of the country which is also home to transnationally distributed family groups.

## Relocation

Community-led relocation due to environmental changes has been part of Pacific everyday action for generations. The research would suggest that scale of household and community-led relocation is underestimated.

There is momentum towards more State-led process of planned relocation. The programme being undertaken by the Government of Fiji is well documented. As early as 2014, the Government of Fiji had indicated that 676 coastal communities needed relocation based on projected climate impacts, of which 42 were expected to require relocation "in this decade, with 17 currently considered as prioritised for relocation as soon as possible". While the process is underway, the planned scale of relocation has not yet been achieved. National-level response in Fiji is characterised by the development of a dense and integrated legal, policy, operational and financial framework.

Relocation will, at the regional scale, remain predominantly internal in nature. Household and community-led relocations will continue as they have done for centuries. Future scale will depend in part on the extent to which other counties follow Fiji's lead and develop an organised programme of State-led relocations.

Self-resettlement – a form of circulation in the relocation context – is an established feature of current pattern.

## Summary Conclusion on Future Scale and Pattern of (Im)mobility

**Given the strong attachment to place, including the nation as a 'place' at a larger scale, the research does not support a finding that there will be a desire to relocate internationally at large scale.** However, given residual uncertainties in the climate system, and looking out over longer time frames towards beyond 2050, the need may arise in some national settings. In such circumstances, the scale will depend on the size of the affected populations. Changes now in migration policy settings may contribute to population decline in countries with low population growth rates over such time horizons and thus influence potential scale under such a scenario.

**What the research suggests, however, is that from the perspective of Pacific peoples: (a) the 'mass' in a 'mass arrival' is at the family or community scale; and (b) will most commonly happen at an individual or household level over an extended period of time in the coming two or three decades rather than all at once at a community or island scale (although the latter cannot entirely be ruled out at particular thresholds of future climate change over longer time horizons). Circulation – in all its various forms and scales – will dominate 'mobility'.** Even should whole communities need to relocate, circulation back in smaller numbers for short periods to reinvigorate attachment to original 'place' is likely to be a strong desire and should be supported by policy to become an element of future pattern.

**The 'mass arrival' in Aotearoa New Zealand of an increasing number of Pacific people in the context of climate change requires the specific attention of policy at the family and community scale both in New**

**Zealand and in the home island**. This because of the impact such 'mass arrival' will have on other members of the transnationally distributed family – both those who may remain in the home island as well as those already present in Aotearoa New Zealand or in another Pacific destination country. While this does not obviate the need to think about what arrival at larger scales over longer time frames might mean, it is critical that policy does not lose sight of the family and community scales which are likely to continue to dominate scale and pattern in the coming two to three decades. This is made more critical given the indication in the research of Aotearoa New Zealand being a preferred overseas destination for some Pacific populations.[7]

### Impacts

Whether staying in place or moving in some way, climate change-related (im)mobility is impacting Pacific communities in various ways and will continue to do so. Community-level tensions, often linked to the factors which the research indicates drive decision-making around whether to stay or move, are documented in the research. These include land and marine boundary issues – a common source of conflict – as well as access to foreshore and the sea for populations of coastal, high island settlements.

In some places, the 'staying in place' of more people has contributed to a rise in petty crime including theft from gardens, the killing of other people's animals for meat, and starting bushfires that destroy coffee plots and gardens. These behaviours undermine community cohesion and trust and pose significant threats to food security, livelihoods and overall safety. Such tensions can be anticipated to endure – if not increase – in countries where momentum led population growth if forecast in the coming decades. This potential for conflict makes clear the **importance of understanding and supporting traditional governance systems for resolving community-level conflict**.

While Pacific communities, rightly, have a sense of pride in their resilience and adaptation to changing conditions, increased stress, mental health issues, and domestic violence also feature in the research, which underscores the importance of factoring wellbeing considerations into policy concerning both mobility and staying in place. These impacts include increased anxiety due to unpredictable weather, stress and trauma from displacement and relocation – both past and anticipated – and cultural disconnections due to the loss of traditional lands. The latter can diminish cultural and spiritual ties, illustrating the lasting impact of climate change on the mental health and social cohesion of Pacific communities.

**Looking to the future, alongside supporting continued everyday resilience, it is vital that policy recognise mental health and psychosocial harm as a key concern.**

## Implications for Policy

The implications for policy arising from the research are detailed in the last section of the report and a short summary only is outlined here.

**Perhaps the key implication for policy which emerges is that climate change-related (im)mobility is already here. It is an issue which requires the attention of policy now, not in the future. Fundamentally, population movement is circular in nature, albeit with significant variability at the household level. This will likely remain the case in the future.**

[7] See, for example, Vaioleti, L., et al (2023b,4) who note in relation to the survey data generated "New Zealand is the clear destination of choice for those in Tonga and Samoa, for those planning overseas mobility in the coming five years, as well as in response to questions on hypothetical overseas mobility given the need and opportunity."

Beyond recognising this reality, it is vital that Pacific climate change-related (im)mobility, like other forms of (im)mobility in the region, is approached not at as an individualised phenomenon, but rather as collective, communal and relationally connected to people and place. **A multi-generational, family and place-based approach to policy development and implementation across policy sectors will best ensure (im)mobility-sensitive policy development and delivery of the best outcomes for Pacific peoples, wherever they may be in the warming Pacific region, as well as for the wider community in which they live.** This includes recognising that the transnational distribution of many Pacific families – the scale of which is likely to increase in the future – is core structural feature of Pacific (im)mobility and requires policy coherence across national jurisdictions.

While, inevitably, the impacts of climate change in the region are going to increase pressure on Aotearoa New Zealand (and other 'hub' States) to free up opportunities for short-term and long-term circulation of Pacific peoples as well as possibilities for residence for families in the overseas part of Pacific transnational societies, such developments must be matched by policy which allows for other families, or family members, to remain in place or choose other destinations within the home island. Taking account of the differing population trajectories in the five mobility-relevant sub-regions will be a critical part of this exercise.

*Lord Howe Settlement, Honiara, Solomon Islands, 2023 (Auckland University).*

**Finally by way of summary, in the specific context of Aotearoa New Zealand, relationship to people and place means both early and deepening engagement with Māori as tangata whenua and recognising marae as a critical expression of place. Understanding what differing scales of mobility – for both Māori and Pacific migrants to Aotearoa New Zealand – may mean for engagement with mana whenua is fundamental to delivering a meaningful process of engagement.**

# INTRODUCTION

## The 2018 Pacific climate change-related displacement and migration: A New Zealand Action Plan

As Jonathan Boston notes:[8]

> "...good public governance must be future-oriented. It must be anticipatory."

He observes that to do this well, governments "need good intelligence, robust evidence and sound advice"[9].

In keeping with this approach to governance, in 2018, the New Zealand government released the Cabinet paper *Pacific climate change-related displacement and migration: a New Zealand action plan* ('the 2018 Action Plan'). There, Cabinet tasked officials to "commission robust research to better understand future climate migration trends and the social and economic impacts on New Zealand and Pacific Island countries". This report responds to that Cabinet direction.

Boston reminds[10] that policy development now must confront the uncertainty which inheres to a greater or lesser extent in relation to any consideration of the future; in this instance, future population movement. This report presents robust evidence across areas such as decision-making and regional population dynamics to reduce some of the uncertainty surrounding the scale and pattern of future population movement in a warming Pacific. More broadly, the core aim of this research has been to produce **actionable knowledge** to inform current and future policy development, and thereby contribute to anticipatory governance in Aotearoa New Zealand and in Pacific Island countries and territories (PICTs).

The research programme mandated by the 2018 Action Plan is the fifth of five early actions on climate-related human mobility in the Pacific. It sits alongside and informs other identified Early Actions in the 2018 Action Plan, in particular, Early Action II – the facilitation of regional dialogue and exploring a regional approach – and Early Action IV – championing the progressive development in international law. These Early Actions have generated regional policy anchors to which this research on (im)mobility relates.

The 2018 Action Plan recognised that New Zealand's action on climate migration should be underpinned by Pacific-led values that honour the desire of Pacific peoples to continue to live in their own countries, where possible, and respect the Pacific's sovereignty and the right to self-determination. It was also recognised that any solution be led by those countries most significantly impacted and, in the regional context, advocate for a Pacific-led response through the Pacific Islands Forum.

It also recognised that Aotearoa New Zealand's unique Treaty of Waitangi obligations and arrangements between Māori and the Crown require that policy development and policy responses must involve iwi, hapū and Māori in recognition of their Treaty partnership as well as their own status and acknowledge the whakapapa links Māori have with Pacific people and Te Moana nui a Kiwa. For this report, Professor Sandy Morrison supported the inclusion of Te Ao Māori and understanding of obligations under Te Tiriti.

[8] Boston, J. (2017) Safeguarding the Future: Governing in an Uncertain World. Bridget Williams Books. 23
[9] Idem. 11.
[10] Idem. 12.

## The methodological approaches

The three research programmes employed multiple methods to generate actionable knowledge on Pacific mobility and immobility to inform policy. Priority was given to research methodologies that enabled Māori and Pacific values and approaches to be used to access indigenous, traditional and sacred knowledge to address policy-relevant questions relating to climate (im)mobility across the region. This demanded the engagement of Māori and Pacific researchers and the use of research methodologies grounded in Māori and Pacific epistemologies. Relevant methods and approaches used in the field included Kaupapa Māori, talanoa, tok stori, maroro, and 'walk the land' (Bishop, 1996a and 1996b; Smith, 2012; Vaioleti, 2006 and 2016; Sanga and Reynolds, 2020). Often, the researchers researched with their own families and communities.

The research brief for the programme also included the generation of policy-relevant information and advice using secondary data analysis, desk-based research on people and places in the region, surveys, visualisations and scenario planning processes. These methods are all rooted in epistemologies underpinning deductive and inductive scientific inquiries. All teams extensively used desk-based research on peoples and places; two teams made widespread use of secondary data analysis, and one team used surveys, visualisation and scenario planning processes.

*Community and family-based studies*

The three programmes used community and family as basic units of analysis, generating over 35 community and family-based studies, spanning generations, geographies and borders. As Underhill-Sem et al. (2024a) observe:

> By acknowledging the strengths and limitations of individual-centric migration studies, researchers and policymakers can work towards developing more comprehensive frameworks that account for both individuals and groupings of individuals who move, but also include the analysis of relationships between those who stay or are 'left behind' .... in the context of climate-induced migration and relocation in the Pacific.[11]

### *Stories*

Central to the methodology of all teams has been the use of stories. Mafile'o et al. (2024b) explain why capturing stories is so important for policy. They note that stories:

> embrace cultural connectedness between land, sea and people; draw on the oral tradition strengths of Pacific-Indigenous cultures; highlight Pacific resilience; identify intangible and non-economic factors associated with Pacific climate mobilities, particularly as to health and well-being; reveal knowledge of evolving traditional and local practices adapting to climate change and new mobilities.[12]

Viewed collectively, these important attributes of storytelling belie the too-often encountered narrative of Pacific peoples as victims. While they unquestionably bear no responsibly for the changing climate and weather patterns which shape their world, the stories captured in this research powerfully make clear their individual and collective agency.

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[11] Underhill-Sem, Y., Newport, C. Ng Shiu, R., Burnett, R. Galokale, K. (2024a) *Community-Level Decision Making Dealing with Mobility*. Waipapa Taumata Rau, University of Auckland. 5.

[12] Mafile'o, T, Taylor, D and Sanga, E. (2024b) *Why stories count in Pacific climate mobility research: A literature review*. Mana Pacific Consultants.

### *Surveys and scenarios*

In addition to community case studies, surveys were used to collect quantitative information from 305 Tongans and 290 Samoans on their beliefs and perceptions regarding climate change and future mobility (and/or staying in place).[13] These, together with another internet-based survey of 111 members of the Tongan and Samoan diaspora in Aotearoa New Zealand, Australia and the United States of America,[14] were used to collect data on their strength of connection to Tonga/Samoa and their current and future roles in climate adaptation and mobility, including financial contributions and input into decision-making.

Visualisations and scenario development processes were employed to generate better understandings of how Tongans and Samoans perceived their futures under different scenarios of climate change. Regarding these methods, Vaioleti, L. et al. (2023d) observe:

> Critically, this process taps into the imagination of participants, and within that, reveals knowledge and assumptions that might otherwise remain unaccessed. The imagination of participants, paired with other information like personal experience or second-hand knowledge also supported thinking on second and third order impacts of possible future changes. By stimulating the imagination of participants, scenario planning has the potential to be an even more powerful tool. [15]

# *PACIFIC CLIMATE MOBILITY THROUGH THE LENS OF TE AO MĀORI AND OBLIGATIONS UNDER TE TIRITI O WAITANGI/THE TREATY OF WAITANGI*

## The policy context

Future climate mobility from Pacific nations to Aoteroa New Zealand will not happen in a vacuum. While this report speaks to a Pacific-led research project, discourses on climate change in Aoteroa New Zealand must acknowledge and consider the political, social, and cultural context, especially as it relates to Māori. This was affirmed in the 2018 Cabinet background paper to this research which stated:

> Aotearoa New Zealand's unique Treaty of Waitangi obligations and arrangements between Māori and the Crown require that policy development and policy responses must also involve iwi, hapū and Māori in recognition of their Treaty partnership as well as their own status, and acknowledge the whakapapa links Māori have with Pacific people and Te Moana-nui-ā-Kiwa.

Additionally, the Terms of Reference for this research required the scope to be grounded in, and informed by, Tikanga Māori, the values of whanaungatanga (family), kaitiakitanga (guardianship) and manaakitanga (protection, wellbeing). These values are expressed in different ways in Pacific cultures and they served as a starting point for decision-making in the scope of work.

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[13] Vaioleti, L., Vaioleti T. and Morrison, S. (2023b) *The mobility-willing and the steadfast-stayers. A survey on mobility willingness and recent and planned mobility in Tonga and Samoa in the context of climate change.* University of Waikato.
[14] Vaioleti, T., Vaioleti, L. and Morrison, S. (2024a) *The diaspora*. University of Waikato.
[15] Vaioleti, L., Vaioleti, T. and Morrison, S. (2023d) *Moving futures. The scenarios*. University of Waikato. 11.

The intention of the New Zealand Government was to demonstrate their commitment as a meaningful Treaty of Waitangi partner to Māori while ensuring that they show leadership to build a resilient Pacific region through the commissioning of the research on which this report draws.

Partnership under the Treaty of Waitangi was also illustrated by the Ministry of Pacific Peoples who introduced their Te Tiriti o Waitangi statement by being clear about their position as a Treaty partner in relation to Māori:

> Māori/ Tangata Whenua and Pacific peoples/ Tangata Moana, share ancient whakapapa linkages that have existed for millennia before the signing of Te Tiriti o Waitangi. Māori graciously acknowledge Pacific peoples as 'tuakana' or the elder siblings in this ancient relationship and themselves as 'teina/ taina' the younger siblings. However, in the context of the Treaty, Pacific peoples are part of 'Tangata Tiriti' as the presence of Pacific peoples in Aotearoa in recent history, is due to the signing of Te Tiriti o Waitangi/ the Treaty. In the context of Aotearoa New Zealand,
> Māori are 'Tangata Whenua' or 'tuakana' and Pacific peoples are 'teina' or 'Tangata Tiriti'.[16]

The Ministry of Pacific Peoples also commit to upholding the principles of the Treaty in terms of partnership, protection, and participation.[17] This means that they work together with tangata whenua, hapū, Māori organisations and mana whenua in ensuring that Māori contribute to decisions that could impact them in the course of the Ministry's work. It also means acknowledging the growing population of Pacific peoples who have whakapapa Māori and utilising Te Reo, kawa, tikanga, taonga and Te Ao Māori knowledge and resources.[18]

Examining the impact of Pacific climate change-related mobility on Te Tiriti o Waitangi and Tikanga Māori is significant, especially given the legal and moral rights that Māori/iwi/hapū assert and continue to assert as tangata whenua of Aotearoa.

There are four issues addressed in this section:

1. Historic and recent experiences of Māori with mobility;
2. Māori and Pacific relationships in the context of mobility;
3. Critical focus areas raised by Māori leaders (decision-making, land, values-based relationality); and
4. Current mobility trends noted in the research and early thoughts on implications for Māori.

The implications for policy are discussed alongside other policy implications emerging from the research in the final section of the report.

## Data collection and methods

This chapter draws predominantly on research undertaken by the University of Waikato particularly '*Six Kōrero'* report.[19] It also draws a community case study from Tokelau by the University of Auckland. Other existing literature, including relevant government reports from New Zealand, is also referenced.

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[16] Ministry of Pacific Peoples, Te Manatū mō ngā iwi o Te Moana-nui-ā-Kīwa (2022b). Yavu the foundations of Pacific engagement. The policy project. Wellington: Ministry of Pacific Peoples. 3

[17] These are the most wellknown set of principles of many but there is no final list. Rather they are determined on a case by case basis.

[18] Idem. 3-4.

[19] Morrison, S., Vaioleti, T. and Vaioleti, L. (2023) *Six kōrero. Ka mate kainga tahi, kia ora kainga rua, ka mate kainga rua, ka ora kainga toru*. University of Waikato.

## The Māori experience of mobility

From a Te Ao Māori perspective, whānau, hapū and iwi traditionally were mobile within their territories, with kainga established for seasonal living and seasonal harvesting. Incorporating principles of tikanga, and through activating the rituals that include karakia, mauri, tapu, noa, rāhui, mahinga kai, maramataka, Matariki, kaitiakitanga, Māori had considerable adaptive resilience to climate cycles and its impacts. Mobilities were supported by these principles and rituals, balance and harmony were upheld by whakapapa relationships with Papatūānuku and Ranginui, a belief system that continues to exist today.

Though resilient, Māori were not invulnerable. Disasters such as floods, tsunamis, and volcanic eruptions led to forced relocation (for example, see Bailey-Winiata 2021;[20] King, 2018[21]). During these times, spiritual encounters, pūrākau and taniwha, guided and explained the location of new kainga, or settlements, allowing Māori to be mobile and responsive to the rhythms of the ecosystems to which they were deeply connected. Thus, attachment to whenua, to place, to spiritual kaitiaki became central to Māori practices and rituals as communities became well-embedded over many generations.

Like other Indigenous peoples and peoples of the Pacific, the spiritual and physical relationship of Māori to land cannot be underestimated. Land provides sustenance for the living and for life itself and is fundamental to identity. The taking of ancestral lands through colonisation remains a significant issue for Māori and the Waitangi Tribunal and the Courts continue to hear grievances on and decide on appropriate redress.

There are historical examples of Māori communities who have experienced mobility. In the late 19th century Waikari marae in Matapihi, Tauranga was moved to higher ground by their hapū of Ngāti Tapu due to coastal flooding and erosion (Tauranga Moana District Māori Council, 1989, cited in Bailey-Akuhata et al, 2022, 43); Waipapa marae in Taranaki was relocated in 1940 because of flooding, and it was moved again in 2009 after flooding in 2006, (Waipapa Marae Trust, 2022 as cited in Bailey-Akuhata et al, 2022, 43). While for the most part, these relocations involved shifts within their tribal boundaries, not all hapū will have the privilege of relocating within their tribal rohe given their colonising histories. Relocation also means consideration for mobility must be given to wāhi tapu, urupā, mahinga kai and homes, all of which underpin livelihood and identity.

During the floods of 2005 in Matatā, it was apparent that the city leaders had built with little regard for Māori knowledge and disregarded Mātauranga Māori. Some Māori declared that the flood was punishment for the city leaders who had breached their lore and disrespected their ancestors, most notably by the building of the township of Matatā on top of wāhi tapu and urupā. The mana whenua of Matatā had their lands taken in 1865. A local pūrākau tells of the tale of the taniwha with a flicking tail; the taniwha would flick its tail around reflecting how rapid and radical the Waitepuru river altered course. This pūrākau guided the Māori community in their actions and engagement and non-engagement with the river. The four Marae were undamaged in the flood as they were built clear of the flicking tail of the taniwha.[22]

Fast forward to more recent times, with the progression of climate events, many Māori marae communities are having critical discussions about retreat, while attempting to balance and uphold their enduring and sacred relationship to their lands within their tribal territories. Bailey-Akuhata and others (2022, p.42) say

[20] Bailey-Winiata, A. P. S. (2021). Understanding the potential exposure of coastal marae and urupā in Aotearoa New Zealand to sea level rise (Thesis, Master of Science (Research) (MSc, Research). The University of Waikato, Hamilton, New Zealand. Retrieved from https://hdl.handle.net/10289/14567

[21] King, D.N. (2018). Māori histories, geological archives and tsunamis in Aotearoa-New Zealand. PhD Thesis. Geology. School of Biological, Earth and Environmental Sciences. New South Wales. 2

[22] Hikuroa, 2017, as cited in Yumagulova,L., et al. (2023): Indigenous perspectives on climate mobility justice and displacement-mobility/immobility continuum, Climate and Development. 10

while Marae were often built in safe spaces that considered Mātauranga Māori, the increasing intensity of climate change now make them hazard exposed. About 80 percent of the nation's some 800 marae and their communities are built on low-lying coastal land or flood prone rivers, with 191/800 located within 1 km of the coastline.[23] The vulnerable locations of many marae expose Māori to climate risk which is exacerbated with sudden disaster events. For example, Cyclone Gabrielle in early 2023 acutely affected many communities, including Māori, and caused long-term social, cultural, economic, and environmental impacts.

Given that Māori are already experiencing climate change resulting in climate mobility, then adding another layer of mobility from Pacific nations may stretch resources available. There is also the point that the development of a policy for adaptation and planned relocation will need to recognise the present challenges for Māori created by historical displacement, while respecting the mana of iwi, hapū and Māori communities who are exercising their rangatiratanga within their rohe or takiwā. It will also need to accommodate the fact that tribal rohe and takiwā boundaries are not the same as district or regional planning boundaries.[24]

## Māori and Pacific relationships in the context of mobility

Māori and Pacific peoples share an ancient genealogical relationship which is anchored in shared gods, sharing storying, shared ancestry, and developed into shared values. They both have roamed and voyaged Te Moana nui a Kiwa for centuries (Pacific peoples for far longer) and continue to do so. These shared values in which both Māori and Pacific peoples can find common purpose include valuing family, collectivism, consensus in decision-making, reciprocity, respect, and love. These values form the holistic nature of life and the centrality of good relationships: the connectivity of the past, present, and future; of people, land, sea, and sky and the spirituality that binds them together.[25]

From a political perspective, the relationship between Māori and Pacific peoples in New Zealand has largely been under the direction and policies of the New Zealand Government within which Māori and several Pacific communities are rather tightly bound (Somerville, 2012). There has both been a long history of cooperation and equally a long history of competition. From the late 1950s and 1960s, there was a high influx of Pacific migrants to New Zealand. This was brought about by the need for more unskilled labour to meet New Zealand's economic growth in the manufacturing sector, as well as the ongoing primary production for Britain which found Māori and Pacific peoples working cooperatively in similar positions.[26]

The 1970's gave rise to political activism with the Polynesian Panthers challenging the hegemony of the State to improve the working and living conditions for Pacific peoples (Anae, 2006). These cooperative endeavours did not dispel some resentment from Māori to the arrival of Pacific migrants to New Zealand as they were seen as causing "incursions on finite local and national resources" (Teaiwa and Mallon 2005, 211). Sefita Hao'uli wrote that "Pacific Island people did not come here to hongi with Māori" an indication that they were coming to New Zealand for jobs and opportunities on a palangi agenda.[27]

Dr Timote Vaioleti, of the University of Waikato, referenced a talanoa with pre-eminent Tongan philosopher 'Epeli Hau'ofa in 2004, where Hau'ofa said *"ko e kakai pe e fonua tenau lave e fakangofua e kakai kehe ken au nofo fonua*" meaning, only tangata whenua can make others part of their whenua. His view that a shared spirituality demanded that those entering new lands must secure the goodwill of tangata whenua and the

[23] Expert Working Group on Managed Retreat (2023). Report of the Expert Working Group on Managed Retreat: A Proposed System for Te Hekenga Rauora/Planned Relocation. Wellington: Expert Working Group on Managed Retreat. 142.
[24] Idem. 77.
[25] Taufe'ulungaki, A. M. (2003, 5 December). What is Pacific research?: A methodological question. Paper presented at the Health Research Council (HRC) Pacific Health Fono, Auckland, New Zealand.
[26] Spoonley, P. & Bedford, R. (2012). *Welcome to our world? Immigration and the reshaping of New Zealand*. Auckland: Dunmore Ltd.; Liu, McCreanor, McIntosh & Teaiwa, 2005.
[27] Hao'uli, S. (1996). We did not come to hongi with Maori, *Mana, 11*: 38-39. 38

right to continue to live on another people's whenua must be respectful and include consultations with tangata whenua. Involving Māori to give their blessing is the right thing to do spiritually and even more so when discussing Pacific mobility.[28]

## Examples of Māori and Pacific relationships

### *Recognised Seasonal Employment (RSE) scheme*

For the ten-year review of the RSE scheme, Vaioleti, Morrison & Vaioleti (2019)[29] highlighted an example of how Māori and Pacific social values were successfully referenced between a Māori iwi business Wakatu/Kono Ltd and a kainga of RSE workers from Tonga - as a guiding framework for RSE worker engagement – from worker selection in Tonga, to day-to-day practices and behaviour expectations when working in New Zealand.

The values-based framework also became the principal underpinning that supported transition and relationships in a new land and adapting to new values and systems. It included an intentional commitment to maintain relationships with families in Tonga as part of the pastoral care model. The application of these values was regarded as vital for productivity, quality work outcomes, and maximisation of the workers' income each year. Programmes based on values from the country of origin have a greater chance of success than those programmes which for the large part have profits as the motivator rather than the care of the workers (Vaioleti, Morrison & Vaioleti, 2019).

### *Community relationships*

A case study undertaken by the University of Auckland in Porirua speaks to a positive working relationship between leaders from Ngāti Toa who hold mana whenua and leaders from the atoll of Atafu in Tokelau.[30]

Leaders were sensitive to their shared history in the 1950s, following World War II. The land in Porirua East was taken from Ngāti Toa under the Public Works Act and used for the new settlement as part of getting the country back on its feet. One of the leaders recalled being raised at that time when many Pacific migrants settled in Porirua. There were tensions between communities with sentiments of Māori feeling being imposed upon and "almost like displacement on your own whenua" as land was taken and given to others by the Government. Through integration and intermarriage, relationships have deepened positively, and the importance of care and support highlighted.

> *About 15 years ago, Ngāti Toa had a powhiri for the Pacific community. It was a huge affair as each community came with their flags and colours as they walked towards the marae…*
>
> *… there's appetite in the Runanga to partner out so that no one will be left out in our communities. Manaaki is taken seriously but whether that's the perception from everybody else, that's the intention of the Runanga.*[31]

The Runanga also provide social, health and education services which are accessed by Pacific peoples as part of its client base. Housing super lots is also an initiative being undertaken by Ngāti Toa, repurposing old state housing, and bringing them up to code to make available for whānau. This includes setting aside homes for Pacific families to own their own homes.

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[28] Talanoa, Timote Vaioleti, 27 April 2024.
[29] Vaioleti, T., Morrison, S. & Vaioleti, L. (2019). *A fanau/whānau-centric recruitment model developed for NZ Recognised Seasonal Employer scheme (RSE).* Unpublished report prepared IMPAECT*, Indigenous Māori and Pacific Adult Education Charitable Trust.
[30] Ng Shiu, R. et al. (2024e).
[31] Idid.10.

Overall, these discussions demonstrate a leadership and political willingness to support the Tokelau community.

> "*it's really up to the Tokelau people to determine where they want to go and to have the conversation with us to see how we can support them*". [32]

These examples are a mere indicator of thriving social and community partnerships between Māori and Pacific peoples and create a model on how to plan for social inclusion and cooperation for the benefit of the broader community. The Bluff Māori community provided similar commitments to those from Ngāti Toa:

> *My personal experience of mobility is through a whānau-to-whānau approach where whānau in the Samoan diaspora returned to Samoa to bring their elders to Aotearoa following the 2009 tsunami. This action and selection of family was intentional - to help family that were struggling to re-establish themselves in Samoa following the disaster, and to benefit from the healthcare systems here. From what I see, I think that these elders are still tentative about claiming their space in their new location. Maybe it is a generational issue.* Aimee Kaio[33]

> *Through intermarriage into the whānau, there is a growing leadership of people who share Māori and Pacific heritage and who are growing into community leaders in their own right within their reconstituted community groups.* Aimee Kaio

While some iwi have explicitly committed to the care of all who reside on their land, approaches could be tested first at a whānau or hapū level. To quote Aimee Kaio, *"Ngāi Tahu whānui, are very clear that we're committed to supporting the wellbeing of all whānau who reside in our takiwā".*

Several examples were shared of successful existing partnerships, including between Māori and Pacific funding networks, social services organisations, regional conservation efforts, and business ventures.

Hinemoana Halo which means the cloak of protection for the ocean upholds Indigenous custodianship across the Pacific to protect and revitalise coastal and marine biodiversity, with particular reference to whales. Several leaders including the Māori King have signed He Whakaputanga Moana (Declaration for the Ocean) as part of the Hinemoana Halo initiative which also includes a more holistic approach to whale conservation. While this declaration is not binding on Governments, it provides an entry point for discussions with respective Governments across the Pacific on not only upscaling conservation efforts but also on finding direct benefits to Māori and Pacific communities from jobs to infrastructure and promoting inter-indigenous economic relations and trade across Aotearoa New Zealand and the Pacific.[34]

There are also organisations who have a mandate to support Māori and/or Pacific partnerships in business and in social enterprise within Aotearoa New Zealand e.g., Amotai NZ, and the Southern Initiative. Both groups which or, supported by local and central government, build leadership especially for Māori and/or Pacific entrepreneurship to connect and go global while also addressing inequitable outcomes.[35]

The examples provided above illustrate how Māori and Pacific peoples' relationships, some of which may have started because of Government policy are now emerging on their own terms and as part of their own creative and dynamic energy founded on shared cultural strengths and cultural wealth.

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[32] Idem. 11.
[33] Morrison, S. et al. (2023).
[34] Conservation International (n.d).Hinemoana halo. https://www.conservation.org/aotearoa/hinemoana-halo
[35] Amotai,n.d. Amotai NZ https://amotai.nz/. and Auckland Council, (n.d.). https://www.tsi.nz/

*We need to establish a framework based on common whakapapa and common values and caring for one another in time of need.* ***Jason Mika***

## Three critical focus areas raised by Māori leaders

This section covers three matters that were consistently spotlighted by Māori leaders in this research engagement, in the context of future Pacific climate mobility and Māori. The first was the process taken for any future discussions and decisions on Pacific climate mobility, the second was the unavoidability of land matters in particular future climate mobility scenarios and the need to be brave, and generous. The third was around shared values. These discussion points are summarised in the final section of this chapter, with some high-level thinking on related policy implications.

### The approach to decision-making is critical

Mana whenua and tangata whenua Māori have been and will continue to advocate for partnership in decision-making processes, where it impacts them, their taonga and their wellbeing to uphold their rangatiratanga and leadership obligations. In addition, the principle of partnership under the Treaty of Waitangi upholds their right to be consulted, including in relation to climate change and climate mobility.

> *Will the government talk to us if they decide to bring Pacific people here [at scale] because they should… that's what partnership means – to include us so we can decide, and help* (Rore Stafford) [36]

Principles of partnership in the Treaty would necessitate the Crown and Māori working together to figure out what options there are, to involve Māori in decision-making and to ensure that Māori are best positioned to support people in the Pacific; the leaders engaged for this research were firm in that the Crown cannot simply come to Māori with proposals on actions in this space.

Māori leaders believed that Pacific peoples and Māori need space to genuinely kōrero, without input from the Crown – listening with an open heart to each other's needs, priorities and aspirations. The solution or sets of solutions will need to be co-developed between Māori, the Crown, and Pacific peoples**.** Discussions, planning, and actions should also be values-led, particularly as Māori and Pacific share many common values.

In recognising that Pacific perspectives and priorities cannot be assumed or generalised, Rore Stafford emphasised that there will also be a natural diversity of views within and between Māori, particularly on complex matters like climate mobility that will have land-related dimensions; engagement must recognise these differences in views. He suggested that, pragmatically, there may need to be different levels of engagement – at a national, iwi and even hapu level, and that progress with discussions, and trialling solutions, may be more effective at a hapū level.

Finally, Professor Linda Smith shared her belief that early discussions need to be bold and 'push the boundaries' of thinking – on risks, opportunities and what is possible "in order to know where we can ultimately 'be', comfortably".

Co-development of solutions should be proactive, and implemented through a strengths-based lens, with goals that include economic independence, and mutual benefit.

[36] Ibid.

## Land, and future land access: generosity will be needed

Several leaders in Samoa and Tonga believed that future climate mobility may mean seeking alternate land overseas, assuming that there may be instances of large scale (sudden or not) mobility that requires concerted planning efforts. One government leader in Tonga shared:

> *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 for 'Eua, Tonga)**[37]

This connection between land and moving with a plan and pathways was mirrored in statements by Māori leader, Ngahiwi Tomoana:

*We must support them into pathways for economic development. We must support them into housing, even being their advocates to buy land … (*Ngahiwi Tomoana)[38]

Land matters however are already central for Māori and confronting regional and Pacific climate mobility scenarios in the context of land will be contentious.

*There is a land provision element to the preservation of culture but that is a very difficult one to consider. We as Māori and Iwi will have to be generous.*[39] (Linda Smith)

*The issue for me is then 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.*[40] (Linda Smith)

All leaders, and those participants who raised matters around land access and acquisition in places like Aotearoa New Zealand, recognised that while necessary, entering into discussions on land in the context of climate mobility will be very difficult, especially as land matters remain unresolved between Māori and the Crown.

Existing challenges in land governance and land management including ownership structures and administration may come to the fore in scenarios of climate-related land negotiations. Complexities would increase where land has multiple owners or where land titles do not have any management structure in place. Further, Māori have and continue to face barriers to the use and development of their own land. The Report of the Controller and Auditor-General, Tumuaki o te Mana Arotake (2004) notes the historic legacy of land legislation and policies that prevented Māori from developing their own land and in many circumstances resulted in Māori land being alienated. Barriers like compliance costs for Māori in accessing their whenua may impact land availability and options for future climate relocation. While improvements to the Te Ture Whenua Māori Act were made in 2021, the substantive issues still largely remain.

A leader from the Ngāti Toa community in Porirua made the following remark on land:

> *"The biggest challenge all Māori have is land. So where do you go to? What our tūpuna traditionally had is control, mana and whenua. So, if there was some problem living there, they had the mana to go up the hill. We don't have that now. We don't have the mana to just say oh well just take that land.*

[37] Vaioleti, L. et al. (2024).112.
[38] Ibid.
[39] Ibid.
[40] Ibid.

*So, the biggest barrier I think to managed retreat is not so much having the will to move, it's the place to move to."* [41]

Finally, Māori, who had in-built adaptive capacity to climate change through seasonal movement, had their seasonal movement ceased soon after the signing of the Treaty of Waitangi; effectively becoming fixed to place, and remaining fixed to the land that they managed to keep. In talanoa (August, 2023), a land expert in Samoa - Tofā Ta'ioa Dr Matavai Tautunu (Director of the Centre for Samoan Studies, NUS) - reflected on a similar history with land in Samoa in that following colonisation, Samoans became relatively fixed in place with the introduction of other land tenure types (previously, of course, all land had been customary land and managed flexibly as such).[42] This common or shared experience could provide a helpful platform for Māori-Pacific discussions on land in the context of regional climate mobility.

### Māori and Pacific shared values and relationality as a critical base

Many engaged in this research highlighted shared values and shared whakapapa between Māori and Pacific peoples. Many saw it as the necessary platform, or starting point, for successful discussions on future climate mobility to Aotearoa.

*"We need to establish a framework based on common whakapapa and common values and caring for one another in time of need -**Jason Mika**"*

A few pointed to the need to decolonise the minds of some who have 'amnesia' about their shared Pacific histories, and a number of Māori leaders also shared a belief that those from some nations of the Pacific – namely Polynesia - have a unique right to resettle in Aotearoa should they wish. Rore Stafford shared his deep sense of empathy, and aroha, towards those Pacific peoples in the future who may lose their land due to climate impacts, reflecting on how critical it is to his well-being to be able to walk on his own whenua daily. Rore described the need for Māori to fall back to their values in Pacific mobility futures, to manaaki those in the Pacific who will be suffering.

## Current mobility trends and early thoughts on implications for Māori

The overall research programme turned out a broad range of new and rich insights around the future scale, pattern and impacts of Pacific climate mobility, as well as existing mobility trends. A number of these trends may have particular implications for Māori. This section aims to touch on a few insights of note however it does not aim to be an exhaustive analysis. Early reflections through a Māori lens are offered for the purpose of providing an entry to further conversations and testing, and under some topics, further questions are raised. The insights from this short analysis feed into the policy implications in the final section of this report.

### Moving as a family, communal living

Climate mobility is expected to happen predominantly at a family level, and findings from the research support this assumption. Supporting families locally could have implications for e.g., Māori health and social service providers being expected to extend manaaki to those who reside in their rohe - as illustrated by Ngāti Toa and Ngai Tahu.[43] These services with their existing networks and capacities could also provide a helpful means of oversight of Pacific family level mobility outcomes, and the effectiveness of support interventions.

[41] Ng Shiu, R. et al. (2024e).
[42] Talanoa, Tofā Ta'ioa Dr Matavai Tautunu, Director of the Centre for Samoan Studies, NUS, August 2023.
[43] Morrison, S. et al. (2023).

For some Pacific populations there would continue to be a strong drive for family communal living, including on relocating to a place like Aotearoa. Some Iwi or hapu-based living models that have proved successful in Aotearoa could be valuable to share. For scenarios of more state-led or large-scale or sudden mobility events, notwithstanding the previous discussion on inclusive decision-making, Māori community organisations and existing structures, including marae, could play a critical supporting role in the initial and ongoing response as well as possible longer term integration support.

## Settlers, incumbents and conflict

Closely connected to the previous discussion on land, Māori and Pacific climate mobility, there will be implications for Māori in any discussions and decisions on land (as well as other resource access, like water, sea or marine resources). Beyond this, tensions are already high in a range of Pacific nations around land access, with many giving examples of conflict between those who are incumbents or landowners and those considered 'settlers'. This power dynamic will need to be navigated in the case of Māori, and Pacific peoples who may 'resettle' in Aotearoa in future, potentially navigating through a conscious effort to consider shared whakapapa, shared experiences of land loss, and through the application of shared value systems.

## Impermanent, dual-mobility or cyclical mobility

The research found that there are a range of mobility patterns likely already in-play in response to climate pressures in the Pacific. For those undertaking overseas mobility, some reported that the plan was to seek out work for a number of years in places like Aotearoa, in order to fund internal relocation of the family home back in the Pacific (a 'dual-mobility' focus). Others intend to continue undertaking other forms of cyclical-type mobility. Some families may have been living between multiple 'homes' in the Pacific (e.g., coastal and inland) due to progressive climate impacts prior to relocating overseas. Based on mobility histories, Māori may be well-placed to appreciate this dynamism and support discussions, thinking and planning through these varied (and perhaps shared) lenses. Further, Māori involvement in businesses tied to recent cyclical mobility (e.g., Iwi involved in the RSE) places them in an influential position in terms of supporting positive social and economic resilience outcomes.

## Young movers

The Pacific population is relatively young. From data analysis, surveys, as well as findings from interviews, it was suggested that those more likely to be mobile under climate stress may also be youth. Māori are also a young population. Engagement with some Pacific diaspora youth in Aotearoa suggested that there may be both social benefits and drawbacks to the coming together of Pacific and Māori youth, with one family sharing that while local Māori youth can provide a helpful integration point to parts of the community, they felt that there were also some unhealthy habits that the Pacific youth took on because of those connections. Youth engagement by all research teams noted a strong focus and desire to get a good job to be able to support one's family. Many were overt in their desire to get a job in places like Aotearoa and Australia. There could be opportunities for Māori iwi, enterprise and business to support Pacific youth into meaningful work pathways. A number of youth also expressed concerns around social and cultural changes and the risk of losing their culture in the future. There could be opportunities for Māori and Pacific youth to share experiences and combine efforts where appropriate for e.g., language preservation and cultural diversity protection.

## Population growth from the Western Pacific

Traditionally, New Zealand including Māori have had a close and beneficial relationship with the Eastern part of the Pacific, this being the Realm countries and Samoa and Tonga. While each Pacific nation has its own distinctive histories and values, Māori share much more in common with the Eastern Pacific given their

Polynesian heritage. With significant relative growth from the Western Pacific expected, a range of critical questions arise for discussion - what will relationships look like with Māori if Aotearoa New Zealand is a destination of choice for those from the Western Pacific? Will a shared Pacific identity emerge given that there is no shared whakapapa? How will commitments and support for each other play out?

Having now addressed Te Ao Māori and obligations under Te Tiriti o Waitangi as a specific and necessary policy context in any discussion around Pacific climate-related (im)mobility to Aoteroa New Zealand, we now turn to more general topics. We need to set the scene in which im(mobility) of Pacific peoples arises. It is to this we now turn.

# *SETTING THE (IM)MOBILITY SCENE*

In order the understand (im)mobility in the context of climate change and set the scene for policy development, it is necessary to describe several significant overlapping elements. How these intersect will determine scale, pattern and impacts of (im)mobility in the Pacific now and into the future.

In the spirit of the well-known Māori whakatauki, *He aha te mea nui o te ao? He tangata, he tangata he tangata!* (What is the most important thing in the world? It is people, it is people, it is people!), this section begins with some introductory comments about the populations of Te Moana Nui a Kiwa (the Pacific) and their Southern most homeland, Aotearoa New Zealand. This is followed by sections introducing settlements, the hazard-scape and regional policy anchors. This is essential contextual information for the substantive sections synthesising the findings from the three research teams that have particular relevance for the policy makers, addressing issues relating to climate (im)mobility.

# *PACIFIC PEOPLES AS POPULATIONS*

The previous section has traversed the socio-political context of Pacific peoples in Aotearoa New Zealand. It has detailed both ancestral connections as well as the more contemporary political, mobility-related and community connections between Māori and Pacific peoples living here and foreshadowed some of the 'big picture' policy issues which emerge by reason of these overlapping connections.

We turn now to the demography of Pacific peoples and what this means for policy.

## In Aotearoa New Zealand

The initial release of data from the 2023 Census of Population and Dwellings on 29 May 2024 recorded 887,493 people, who are usually resident in Aotearoa New Zealand, identifying as Māori, an increase of 111,657 (14%) on the 2018 Census Māori population.[44] The comparable Census population identifying with cultural heritages and ancestral roots in the islands of Te Moana Nui a Kiwa – the Pacific peoples – is 442,632, an increase of 60,990 (16%) on the 2018 Census population of Pacific peoples.

As noted earlier, there is significant overlap between these ethnic populations because of inter-ethnic relationships and a long history of intermarriage. The combined populations of Māori and Pacific peoples, with ancestral connections to places in Te Moana Nui a Kiwa, accounted for at least 25% of Aotearoa New

[44] Stats NZ (2024) 2023 Census population counts (by ethnic group, age, and Māori descent) and dwelling counts. 29 May. Accessible at: https://www.stats.govt.nz/information-releases/2023-census-population-counts-by-ethnic-group-age-and-maori-descent-and-dwelling-counts/

Zealand's total population in 2023 and over 40% of the country's children under 15 years of age. **These are significant shares of the country's total population that will go on increasing during the 21st century because of a mix of momentum-led growth (higher than average birth rates) and migration-led growth (more people coming into the country to stay for lengthy periods than leaving for overseas destinations).**

For good reason, then, Damon Salesa (2017, 7) is right to observe in the first sentence of his monograph 'Island time; New Zealand's Pacific Futures' that,

> as you read, Auckland and New Zealand are becoming more Pacific by the hour. This is not a change visible at the airport, or at the docks, as it was when we the Pacific population grew through migration. … These days, the chief ports of entry for Pacific peoples are the country' s maternity wards.[45]

Salesa also observes that while, as a population, Pacific peoples are unevenly distributed across Aoteraoa New Zealand, the substantial growth in the Pacific population since the 1970s has led to fundamental change:

> By 1976, the population had reached nearly 66,000. From this point on, New Zealand was becoming demonstrably 'Pacific', but unevenly so. Effectively, within New Zealand, there developed a kind of Pacific archipelago - an archipelago made up of 'islands' (neighbourhoods, institutions and in some cases suburbs) where Pacific islanders spent much of their lives. By sheer force of who they were, and with an exuberant connection to their identities and cultures, Pacific people made these locations into unabashedly *Pacific* places."[46]

**The emergence of – at least initially – mobility-driven Pacific places in Aotearoa New Zealand is important. It has spurred the development of an increasing number of transnationally distributed family groups. As the report will go onto discuss, family now situated across national borders play an important role in shaping current patterns of (im)mobility within the region and will do in a future in which the impacts of climate change will likely increasingly feature as an important contributor to the movement of people into and out of Aotearoa New Zealand during the next 30-50 years.**

The research commissioned by MFAT to better understand future climate migration trends and the social and economic impacts on New Zealand and Pacific Island countries the subject of this report, included a substantial inquiry into population dynamics in the Pacific. It is therefore appropriate to set the scene with some brief comments about the region's population to get a sense of the *scale* of Pacific peoples in their island homes and in their transnational communities in other countries.

## The regional population

By 1 July 2024, the population of the 21 PICTs is projected to exceed 13 million for the first time, according to the Pacific Community's (SPC) Statistics Development Unit[47]. Just under 9.7 million (73%) of the region's 13.2 million are estimated to be living in Papua New Guinea in 2024. The remaining 3.5 million (27%) are distributed unevenly across the other 20 PICTs. Almost half of this total (48%; ~1.6m) is in two countries: Fiji (907,400) and Solomon Islands (778,500) (Figure 1).

[45] Salesa. D. (2017) *Island Time: New Zealand's Pacific Futures*. Bridget Williams Books.
[46] Idem. 10.
[47] An estimated total population of 13,210,000. SPC (2024). *Population*. Statistics for Development Division. Website. https://sdd.spc.int/topic/population.

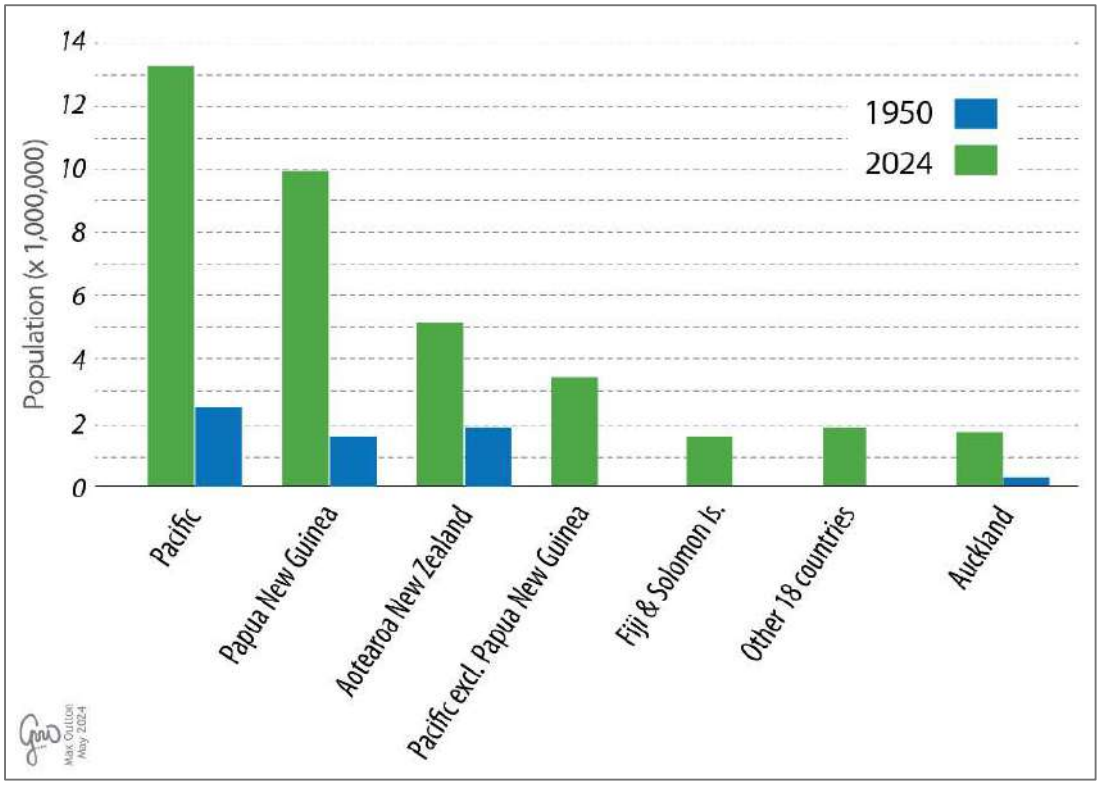


***Figure 1: Comparative populations, Pacific countries, Aotearoa New Zealand, and Auckland: 2024 and 1950***

The remaining 18 PICTs (none of which has a population over 350,000) share a population of 1.85 million between them – only 150,000 more than the estimated total population of Auckland in 2024 (1.7m)[48]. To put it another way, in July 2024 the combined populations of the nine countries in Polynesia, the seven countries of Micronesia and the two remaining Melanesian countries of New Caledonia and Vanuatu is not much larger than Auckland's current population (Figure 1).

Aotearoa New Zealand's estimated population of 5.18 million in 2024[49] is equivalent to 59% of the 9.7 million people SPC has projected for Papua New Guinea in 2024. Just under 75 years ago, in 1950, the total populations of Aotearoa New Zealand and Papua New Guinea were very similar (Figure 1). Papua New Guinea's estimated total in that year was 1.68 million - around 300,000 fewer than Aotearoa New Zealand's population of 1.92 in 1950 (Figure 1).

The total population of the 21 PICTs in 1950 (2.56 million) was around 33% larger that Aotearoa New Zealand's 1.92 million in that year. By 2024 the Pacific's population (13.2 million) was more than double the 5.18 million in Aotearoa New Zealand, and by 2100 the United Nations Population Division's medium variant projections have the Pacific's total population (24.6 million) being four times their projected total for Aotearoa New Zealand (6.2 million) in that year (see Figure 2).

Projections are rarely accurate predictions of actual populations, especially over long periods, but the bars in Figures 1 and 2 give useful indications of ***scale*** in the Pacific regional population and the population of Aotearoa New Zealand between 1950 and 2100.

[48] See World Population Review. World Population by Country 2024. Website. (live). https://worldpopulationreview.com/world-cities/auckland-population

[49] See *National population projections, by age and sex, 2022(base)-2073*. Website. https://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE8610

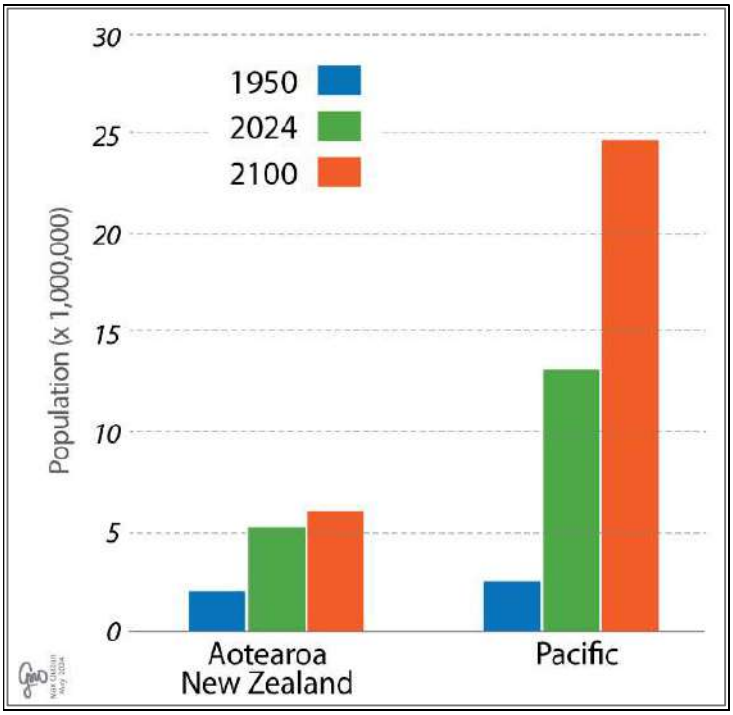


***Figure 2: Populations of the Pacific and Aotearoa New Zealand:1950, 2024 and 2100***

## The exception of Papua New Guinea

The reports on population dynamics in the Pacific place a lot of emphasis on the fact that summary statistics of the region are very much determined by the particular characteristics of Papua New Guinea's population. This is demonstrated with regard to growth of the region's population over the past 70 years and into the future, to the key demographic processes that drive population growth (fertility, mortality and migration), to the structure of populations in terms of key age groups, and on the distribution of the population in rural settlements and urban places.

**When examining changes in the *region's* population it is important to keep the overwhelming demographic dominance of Papua New Guinea in mind**.[50] To this end, the research has analysed population change with reference to five clusters of countries. These are introduced in the section on The Diverse Pacific. In these clusters, Papua New Guinea is included with two neighbouring countries (Solomon Islands and Vanuatu) with similar patterns of population growth and distribution and comprises the western Pacific cluster. The other 18 PICTs are grouped into the four other clusters.

A distinctive feature of the demography of countries in the western Pacific is the high percentage of peoples living in rural settlements (Figure 3). Papua New Guinea, Solomon Islands and Vanuatu all had 80% or more of their national populations living in rural settlements in 2022 – effectively the reverse of the situation in Aotearoa New Zealand where 87% of the population live in urban settlements.[51]

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[50] Bedford, R.D., Friesen, W. and Underhill-Sem, Y. (2023) *Regional population dynamics and mobility trends in the Pacific*. See p13-16 for further comments on the impact of Papua New Guinea's population on regional population change, 1950-2050.

[51] Unless otherwise stated, the data on characteristics of Pacific populations in this section and in the section on the Diverse Pacific come from either the Pacific Community's (SPC) Pacific Data Hub which can be accessed at: https://pacificdata.org/data/dataset/population-projections-df-pop-proj, or population estimates and projections produced for the United Nations Department of Economic and Social Affairs (UNDESA) which can be accessed at: https://population.un.org/wpp/Download/Standard/MostUsed/. Some of the strengths and limitations of these data sources are discussed in Bedford, R.D., Burnett, R., Friesen, W., Newport, T., Ng Shiu, R. and Underhill-Sem, Y. (2023b) Pacific population dynamics in the context of climate change. Momentum-led and migration-led population change in the Pacific, 1950-2050: implications for Aotearoa in the context of climate change. *Policy Brief 1*. 4-10.

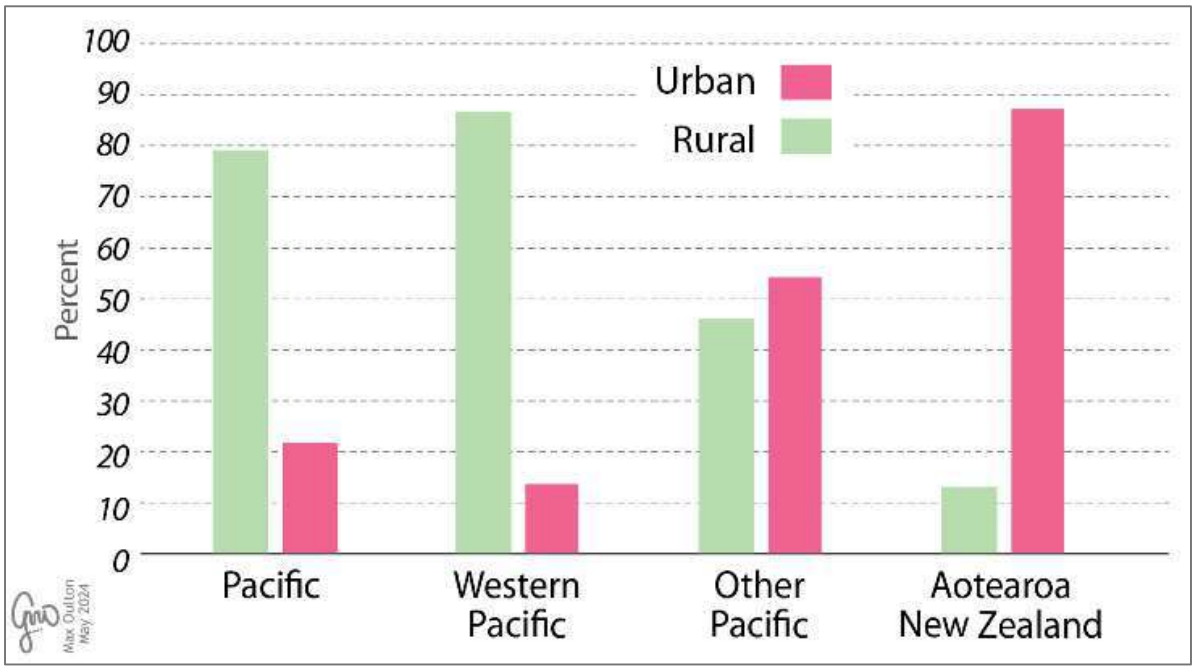


***Figure 3: Percentages living in rural and urban areas, 2022***

There is quite a different rural-urban distribution of people in the other 18 PICTs with just over half of their combined population living in local towns and cities. The 20% of the Pacific's regional population living in towns shown in Figure 3 thus gives a very unrepresentative picture of the level of urbanisation in most of the Pacific countries. They suggest a much higher dominance of rural populations than is the case in the majority of countries in the region.

## Pacific-born populations overseas

Pacific peoples have well-established traditions of mobility both within the islands that comprise the present nation states and territories (all legacies of European colonisation from the mid-eighteenth century) as well as between PICTs and selected countries bordering the Pacific Ocean. The project's research on the scale and patterns of population movement are reviewed in later sections, but an overseas dimension to Pacific populations needs to be acknowledged in this scene-setting section.

The Pacific populations living in countries other than their country of birth, in and beyond the region, comprised around 6% of all Pacific-born peoples around 2019, according to the databases compiled by the United Nations Population Division and the World Bank.[52] While this sounds like a very small share, it is above the global average for overseas-resident birthplace populations (around 3.5%). The overseas dimension to populations in the region is both a critical dimension of many Pacific societies and economies, as well as an essential component of the architecture of contemporary and future climate (im)mobility.

**There are major variations across the Pacific in their overseas populations.** These variations reflect some very different histories of colonisation and decolonisation in the region. For example, countries like Papua New Guinea, Solomon Islands and Vanuatu in the western Pacific, where the great majority of Pacific peoples live, had less than 1% of their total birthplace populations living overseas around 2019. This compares with just under 30% of the populations born in countries in other parts of the region (Figure 4).

[52] Unless otherwise stated, the data on populations born in the Pacific come from a database developed for the migration analysis contained in Burson, B., Bedford, R.D. and Bedford, C.E. (2021) *In the Same Canoe: Building the Case for a Regional Harmonisation of Approaches to Humanitarian Entry and Stay in 'Our Sea of Islands'*. Geneva: Platform on Disaster Displacement. See Appendix 2 in that report for details of the sources of the data.

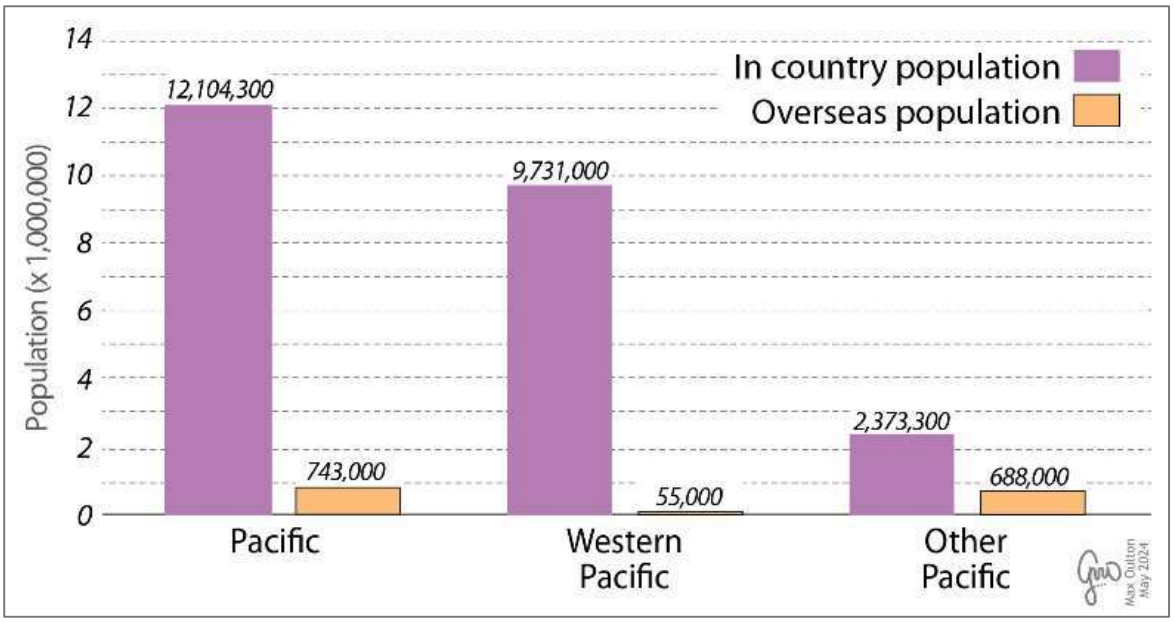


***Figure 4: In-country and overseas-resident populations born in the PICTs, 2019***

These differences, amongst others, are unpacked further with reference to five sub-regional clusters of PICTs, one of which is the western Pacific cluster in Figure 4. Before moving to that analysis, three more scene-setting topics need to be introduced: settlements, hazard-scapes, and key policy anchors.

# *SETTLEMENTS*

## Settlements as sites of exposure of population

At the national, and in some settings, sub-national level, Pacific populations are distributed across different geographies in villages, towns and cities in different ratios. Recognising geographic variability of settlements at the national, sub-national and, in particular, the community-level is critical. **It is at the intersection of local geography and hazards that the exposure of settlements lies, and where the intergenerationally transmitted knowledge and skills of the community of people inhabiting them has been forged**. This relationship is sometimes expressed in terms of so called 'hotspots' (e.g., Campbell & Warrick, 2014).

In order the drive a more nuanced understanding of how changes in the local environment are being experienced by communities and how this, in turn, may influence decisions around (im)mobility, the University of Auckland's report '*Navigating vulnerability, continuing resilience*' helpfully groups the community studies by their underlying geography and charts what the community indicated as the environmental challenges faced (Figure 5).

| Challenge / Settlement | Coastal erosion | Salt intrusion | | High water table | Temperature | | Rainfall | | Flooding |
|---|---|---|---|---|---|---|---|---|---|
| | | Ground | Water | | Hotter | Colder | More | Less | |
| Atoll | | | | | | | | | |
| Coastal lying | | | | | | | | | |
| Coastal on high islands | | | | | | | | | |
| Upland or inland | | | | | | | | | |
| Highlands | | | | | | | | | |

**Figure 5: Climate and environmental challenges by settlement type**[53]

The geographic variability of settlements mediates how hazards impact communities by influencing experiences of land and/or marine food insecurity and biodiversity loss. The research indicates that, while atolls and coastal communities face issues regarding marine-based protein sources, agriculture and livestock are also impacted in large western Pacific countries. Further, while communities in settlements on small atolls rely heavily on fresh rainwater, in other settlement types in other geographies rivers and wells are important water sources.[54]

## Population distribution and settlement

Population distribution is clearly relevant in the context of climate (im)mobility. Except for Papua New Guinea the great majority of the Pacific's rural and urban populations live close to the coast. This is clearly reflected in Figure 6. Other countries in the western Pacific, as well as Fiji, Samoa and Niue, have small shares of their populations living in inland locations, unlike Papua New Guinea where the majority of the population live more than 10 km from the coast. But when Papua New Guinea's population is removed from the regional total, the SPC's database on locations of settlements indicates that 90% of the population in the other 20 PICTs live within 5 km of the coast and 14 of these countries have 100% in this category.[55]

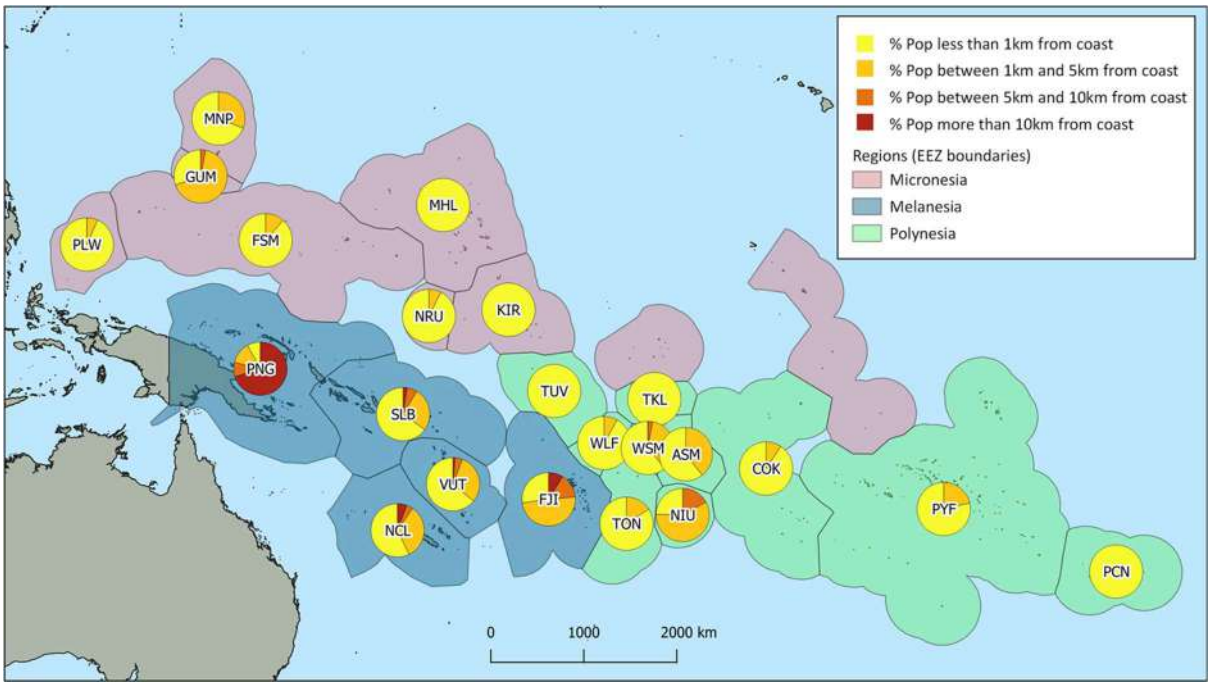


***Figure 6: Proportions of Pacific populations living within 1, 5 and 10 km of the coast***

Source: Andrew et al. (2019, 7).

However, as the research clearly demonstrates, adjusting to changes in environments by populations in rural and urban locations, whether near the coast or inland, has been part of daily life in Pacific communities for centuries.

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[53] Adapted from Ng Shiu, R. et al. (2024).

[54] Ng Shiu, R., Newport, C., & Underhill-Sem, Y. (2024b). *Pacific human security: Health, wellbeing and resilience*. Waipapa Taumata Rau, University of Auckland. 6 - citing Campbell and Warwick 2014 and Paeniu et al. 2016.

[55] SPC's data on coastal populations 1, 5 and 10 km from the coast can be accessed at: SPC (2021) *Coastal Population in Relative Frequency.* Pacific Data Hub. Website. https://stats.pacificdata.org/vis?lc=en&df[ds]=SPC2&df[id]=DF_POP_COAST&df[ag]=SPC&df[vs]=2.0&dq=..COASTALPOPRF..&pd=2021%2C2021&ly[rw]=GEO_PICT&ly[cl]=RANGE&to[TIME_PERIOD]=false

Regionally, rates of urbanisation differ by country and by cluster, and most urban centres in the region are on or near the coast. These have experienced significant growth in recent decades, with the expectation of further increases by 2050 (Campbell 2022b). This is explored in more detail in section 'The Diverse Pacific'.

At the general level, understanding historical and projected trends in urbanisation provides a window on a particular characteristic of internal migration. More specifically, understanding urbanisation is critical in the context of climate change and disaster-related (im)mobility for three reasons.

First, the urban environment in all PICTs, except for the inland towns in Papua New Guinea, is a site of exposure to specific coastal hazards, such as sea-level rise, storm surges and tsunamis.

Second, urban centres are often one of the few places where non-customary land tenure arrangements and governance structures exist to any significant degree.
This is not to say that alienated rural land (usually, to the government or the church) does not exist, nor that customary land tenure is not a feature in Pacific urban environments. Typically, the two will coexist in differing ratios depending on the national and/or sub-national setting, with customary ownership of peri-urban land being structural feature of Pacific national-scale land tenure arrangements.[56]

Third, urban and peri-urban areas tend to be sites of informal settlement which influences how hazards are experienced by the inhabiting communities/families and magnifies the impacts of disasters. Often (but not always as the community study of Lord Howe settlement demonstrates)[57] informal settlements become situated on marginal land because this is where unsettled public land is located.

## Settlements and tenure

### Land and marine tenure

That land tenure and governance arrangements in the Pacific is a context in which climate change-related (im)mobility is well reflected in the literature. As Fitzgerald observes, "land tenure systems determine who can use what resources, for how long, and under what conditions."[58] Land tenure is not to be confused with security of tenure. While often overlapping, persons without formal tenure over the land where they reside may nevertheless have some degree of security of tenure, of which a formal lease is the paradigm example. So too with persons living in informal settlements. A degree of perceived security of tenure may exist for a number of reasons including, "community governance mechanisms that underpin access to land through family/lineage and other connections"[59].

That said, there are significant issues relating to access to land for alternative places of residence in the face of damage to environments caused by climate change in all countries. Talanoa conducted in Tonga and Samoa revealed many points relating to customary land tenure systems in the two countries and the options these offer for families to move, with land availability being raised as a particularly pressing issue in Tonga. The talanoa also revealed some important innovative steps such as land swaps being undertaken in Tonga to reduce such barriers to mobility. [60]

[56] Fitzpatrick D. (2022). *Research Brief on Land Tenure and Climate Mobility in the Pacific Region*, Pacific Islands Forum Secretariat
[57] Underhill-Sem, Y., Newport, C., Ng Shiu, R., & Galokale, K. (2024h). *Lord Howe Settlement: A community case study from The Solomon Islands*. Waipapa Taumata Rau, University of Auckland.
[58] Fitzpatrick D. (2022). 2
[59] Idem. 9 citing Orcherton et al. (2017).
[60], Vaioleti, L. et al. (2024). 17; Morrison, S. et al. (2024b). 16

The research underpinning this report builds on these understandings. Significantly, the research makes clear it is not only important to consider land tenure; marine tenure is important too.

> *When it comes to marine resource, the reefs is like our second garden and it is a shared resource among nearby communities. (Ambu, Solomon Islands)*[61]

> *Both Land and Sea are very important for us. Land is mostly important for us, where we can build our homes and used for household gardening. It gives us home as well as the surrounding environment keeps us stable and, contributes to our survival. For the sea, this is where we fish for our food and some of us for income. The sea provides its resources to us to utilise in a way that we can all benefit from it.* (St. John (Betio) Kiribati)[62]

> *Only land has boundary, and everyone knows boundary. So far, we are glad that there have been no conflict over fishing grounds.* (Takaeang, Aranuka, Kiribati)[63]

Those residing in places where they enjoy no tenure over the land where they live will continue to enjoy community-derived tenure over marine resources which allows them to remain in place (voluntarily immobile) and engage in everyday activities generating income. This is reflected by one research participant:

> *"We don't have land here, but we do have the sea. And when we are here we can get money every day." (Pa'atangata settlement, Tonga)* [64]

Marine tenure influences the current scale and patterns of (im)mobility. The research emphasises how the shared and secure tenure of the marine territory provides additional food security allowing households/communities to choose to stay in place. As the University of Auckland observe:

> *The diverse tenure, use, and governance systems in Pacific communities are a blend of traditional/indigenous approaches, state-imposed structures, and in-situ community practices. Understanding these systems and practices are crucial to gauge the scale and patterns of climate-induced mobility for diverse Pacific communities. For example, decisions to move away from coastal areas or remain in place involves considering how to maintain stewardship of resources, fulfil obligations to prevent overfishing or over harvesting, and protect burial grounds, ground water sources and marine resources.* [65]

# *THE HAZARD-SCAPE*

## Impacts not hazards per se as the focus

Reviewing the literature, Bryar and Westbury (2023) draw particular attention to the shortcomings of approaches which make expansive claims about limits on opportunities for adaptation based on predicted ecological or physical loss drawn from climate modelling. They note that the dynamic nature of the climate

[61] Underhill-Sem, Y., Newport, C., Ng Shiu, R., Galokale, K. & Futaiasi, D. (2024e). *Ambu, Malaita Province: A community case study from The Solomon Islands*. Waipapa Taumata Rau, University of Auckland

[62] Ng Shiu, R., Newport, C., Underhill-Sem, Y. & Burnett, R., (2024c). *St. John, Betio: A community case study from Kiribati*. Waipapa Taumata Rau, University of Auckland.

[63] Ng Shiu, R., Newport, C., Underhill-Sem, Y. & Burnett, R. (2024d). *Takaeang, Aranuka: A community case study from Kiribati*. Waipapa Taumata Rau, University of Auckland.

[64] Vaioleti, L. et al. (2023b).

[65] Newport, C., Underhill-Sem, Y., & Ng Shiu, R. (2024b) *Community land and marine tenure*. Waipapa Taumata Rau, University of Auckland.

system cloaks adaptation with an inherent uncertainty. An over-emphasis on scientifically predicted ecological limits tends to undervalue the adaptive capacities of individuals and communities. This, they argue, shapes the framing of discussions around mobility (citations omitted):

> Such claims about the inevitable impacts of ecological limits raise a critical point of contention in the context of limits to adaptation in the Pacific. For example, based on scientifically predicted ecological limits, the predominant international policy and media discourse on the low lying states is that they will inevitably be submerged due to sea level rise ... . Within this discourse, relocation and migration appear as the most, if not only, plausible adaption response, rather than as a failure of adaptation.[66]

They champion an alternative framing to adaptation, namely one "that draws attention to social limits to adaptation based on the socially determined nature of limits that emerge at points where adaptation fails to protect the things that stakeholders value most."[67]

While **the research challenges the notion that migration and relocation at the household level is best characterised as a 'failure' of adaptation in all circumstances**, the caution sounded as regards the need to properly weigh the capacity within communities to innovate and update traditional practice – to adapt to protect the things they value most – is important when considering (im)mobility in the context of climate change. It is not the underlying hazard or physical change in the environment which shapes, and will shape, the scale and pattern of (im)mobility but rather the impacts of those changes on the lives and livelihoods of individuals, households and communities. It is how these impacts shape perceptions of risk and loss, and opportunity, that will influence decisions to stay in place or, if both willing and able, to move elsewhere temporarily or on more long-term basis. For this reason, this report, and the research on which it draws, is not focussed on hazards *per se* but more the impacts of hazards on the land and marine environment and ecosystems from which Pacific peoples derive their identity and intrinsic sense of human 'being' and livelihoods.

Nevertheless, the research makes it abundantly clear that hazards are a context shaping current and future (im)mobility. The force exerted by anticipated future impacts of climate change-related hazards on people in Samoa and Tonga, and how this may shape (im)mobility, is vividly explored in the University of Waikato's 'visions' and scenario building exercise.[68] We address these aspects of the research in the sections dealing with current and future (im)mobility.

Although this report has been prepared under an Action Plan centred on concern with the impacts of climate change, the Pacific hazard-scape comprises weather, climate-related and geophysical hazards. The latter, popularly characterised as the Pacific Ring of Fire, are not simply volcanic in nature, but include land and sub-marine earthquakes. Sub-marine earthquakes and island volcanic eruptions can also produce devastating tsunamis, such as occurred in Samoa in 2009 and Tonga in 2022. The research demonstrates how each event has had significant effect on mobility in these countries, as well as influencing perceptions of future risk.

Interestingly, a survey undertaken by the University of Waikato revealed that 38% of the 305 survey participants believed that climate change impacts tsunami and volcanic eruption frequency. The important

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[66] Bryar, T. and Westbury T. (2023). T*he Limits to Adaptation in the Context of Climate Security in the Pacific.* International Organization for Migration (IOM), Republic of the Marshall Islands. 35pp. p.11. At https://www.iom.int/sites/g/files/tmzbdl486/files/documents/2023-06/limits-to-adaptaiton-in-the-context-of-the-pacific-2023.pdf

[67] Ibid.

[68] Vaioleti, L., Vaioleti, T. and Morrison, S. (2023c) *The visions. Eight visions of the future*. University of Waikato**,** and Vaioleti, L., et al. (2023d).

point here is not the misconception itself, but how such misconception shapes a perception of future risk and plans for future mobility.[69]

This broader approach to hazards and (im)mobility is thus warranted and sets the research approach apart from other assessments of future (im)mobility in the Pacific which often focus on climate- and weather-related hazards. For example, the World Bank's 2021 report *Groundswell Part II. Acting on Internal Climate migration* features a chapter on SIDS[70], but there are no projections of 'internal climate migration'. This is because the modelling employed used 14-kilometre grid cells, which "are not easily applicable to small islands."[71] This limitation aside, the report does go on to discuss the Pacific and other SIDS. While the report references displacement in Samoa following the 2009 tsunami and in Vanuatu and Papua New Guinea following volcanic eruptions there in 2009 and 2004, respectively,[72] the focus of the report is overwhelmingly on the impacts of climate change only.

None of this is to say that climate change is not an important factor shaping the scale and pattern of current and future (im)mobility in the region. The contributions by Working Groups I and II to the IPCC's Sixth Assessment Report is very clear that there is a greater than 50% likelihood that global warming will reach or exceed 1.5°C by 2040, even for the very low greenhouse gas emissions scenario.[73] That there is now more than a 50% chance that this temperature threshold will be consistently exceeded within the next decade or two is a significant development in the Pacific hazard-scape , especially for the PICTs comprised entirely of coral atolls and reef islands.

As for impacts, in a diagram summarising the observed impacts of climate change on ecosystems and human systems, the IPCC report that the global group Small Islands score "high or very high levels of confidence in attribution of changes to climate change" in all of the ecosystem and species range categories listed.[74] In the case of human systems, Small Islands is one of the few clusters of countries to score "high or medium levels of confidence in increasing adverse impacts of climate change" on most of the categories relating to water security, food production, health and wellbeing and disruption to cities, settlements and infrastructure.

As will be discussed, the impacts of climate change on water and food insecurity at the community and household level is one of three interdependent factors that will shape the future scale and pattern of (im)mobility in the region.

## Different hazards, same community

It is now recognised that there is a relationship between sudden-onset weather-related hazards, such as cyclones and storm surges, and more slow-onset hazards/processes such as, sea-surface temperature increase and sea-level rise. However, in the specific context of Pacific (im)mobility, it is also important to understand that climate-related hazards intersect with geophysical hazards and do so in different ways. For example, land subsidence in Western Samoa linked to the rebounding of the earth's crust following an earthquake and tsunami in 2009 is accelerating the impacts of sea-level rise, which is rising four times faster

[69] Vaioleti, L. et al. (2023b). 12
[70] Small Island Developing States (SIDS)
[71] Clement, V., Rigaud, K. K., de Sherbinin, A. et al. (2021*). Groundswell Part 2: Acting on Internal Climate Migration*. World Bank, Washington, DC. 217.
[72] Idem. 230.
[73] Portner, H.-O., et al. (2022) Summary for Policymakers, in *Climate Change 2022: Impacts, Adaptation and Vulnerability,* IPCC Sixth Assessment Report. 8. https://www.ipcc.ch/report/ar6/wg2/
[74] Idem. 10.

than the global average.[75] This demonstrates how different **hazards may intersect and shape long-term patterns of exposure of a community**.

By way of contrast, the studies on communities relocated following geophysical hazards highlight how this may magnify impacts. In Papua New Guinea, in the aftermath of a volcanic eruption in 1994, which displaced approximately 80,000 people, many people living in Matupit Island at the time were resettled on upland government lands 50 kilometres away. The community indicated that climate change has brought notable increases in sea and land temperatures and increased the already elevated level of soil acidity arising from the eruption. This, the community reports, has resulted in low food crop production, reduced fish supplies, and fewer food staples.[76]

Similarly, the community in Aruligo, which is inhabited by the descendants of persons relocated by the Solomon Islands government in 1977 after an earthquake stuck the coastal villages, reported challenges due to unpredictable weather patterns. Previously able to predict the weather and plan their gardening and fishing activities accordingly, today members of this community no longer see specific seasons for rain or drought.
These examples indicate clearly that increasing variability in the weather is affecting traditional gardening and fishing practices in some communities long after they were relocated because of the impacts of geophysical hazards.[77]

## Hazards and data gaps

Another MFAT funded project, led by NIWA, aims to provide a national and sub-national overview to guide communities and officials as to existence, or not, of different types, of climate-related hazards and the level of detail, and relevant data sets typically used in assessing risk/vulnerability to these climate-related hazards. The climate hazards include: drought, extreme winds, river (fluvial) flooding, rainfall (pluvial) flooding, coastal inundation, shoreline and delta change, heatwaves, landslide, soil erosion and ocean temperature and acidification.[78]

At the date of this report, the analysis by NIWA is not available. Given much hazard data understandably sits at Ministry level, we do not know the nature and extent of data gaps. However, perhaps signalling a bias towards certain types of hazard data in the public-facing mapping is useful. What tends to be most referenced in Pacific-focussed mobility-studies is how many people live in certain distance of the coast, and thus are more differentially exposed to sea-level rise, storm surges and coastal erosion, rather than those who live along riverbank who are exposed to fluvial flooding, or those who live within a likely pyroclastic flow path.

The focus on a broader range of hazards is a positive development given exposure to hazards other than those affecting coastal settlement populations is a factor influencing both current and future scales and patterns of mobility. To the extent that this analysis reveals gaps in mapping in relation to hazard type, country and/or scale, it is imperative that such data gaps are addressed. **This means that technical agencies such as NIWA ought to continue to collaborate in partnership with Pacific countries, as well as regional organisations, such as SPC, to generate baseline data (where needed) and updating data on more hazards and with greater granularity.**

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[75] Cartier, K. M.S. (2024) "American Samoa's sinking land speeds up sea level rise". *Samoa News* (4 February 2024). At https://www.samoanews.com/local-news/american-samoas-sinking-land-speeds-sea-level-rise Accessed 11 April 2024.
[76] Underhill-Sem, Y., Newport, C., Ng Shiu, R., Galokale, K., & Litau, J. (2024d). *Matupit: A community case study from Papua New Guinea*. Waipapa Taumata Rau, University of Auckland. 5-6.
[77] Underhill-Sem, Y., Newport, C., Ng Shiu, R., Galokale, K. & Futaiasi, D. (2024f). *Aruligo: A community case study from The Solomon Islands*. Waipapa Taumata Rau, University of Auckland..
[78] See NIWA (n.d).*Pacific Risk Tool for Resilience, Phase 2*. Website. https://niwa.co.nz/pacific/pacific-risk-tool-resilience-phase-2-partner-2#approach. Accessed 30 April 2024

This, in turn, needs to be made accessible to communities. This should include specific efforts to improve understandability and relevance to specific communities/island groups.

# *REGIONAL POLICY ANCHORS*

## Te Moana nui a Kiwa

The most fundamental policy anchor is the Pacific itself – Te Moana nui a Kiwa. What Epeli Hau'ofa's (1993; 8) famous description of the Pacific as a 'sea of islands' signifies for (im)mobility-related policy is the notion of an ever-present ebb and flow, of circulation, like the sea itself in the ancestral past, the present and into the future. It also speaks to the ocean as a connector of peoples, a pathway by which vibrant and dynamic relationships to peoples, to places, have been developed and maintained.[79]

It is perhaps no surprise, then, that a report interrogating the policy implications of current and future (im)mobility in the very modern context of climate change should come to centre on notions of circulation and relationality as expressed through relationships to people and place including to new places across the Pacific ocean – the "single common heritage" of all Pacific peoples (Hau'ofa 1997; 54).

## The Pacific Regional Framework on Climate Mobility/2050 Strategy for the Blue Pacific Continent

The endorsement by Pacific Island Forum Leaders in late 2023 of the of *Pacific Regional Framework on Climate Mobility*,[80] – the development of which was supported by the New Zealand Ministry of Foreign Affairs and Trade – signals unequivocal recognition by Pacific leaders that (im)mobility in context of disasters and climate change is an issue of regional significance.[81]

At the national level, the extent to which climate change -related mobility has been integrated into development planning and sectoral policies in PICTs is variable. Some aspects such as the need to relocate vulnerable communities or migration as an adaptation strategy are acknowledged, but unevenly so (Voight-Graff, 2022).

In the Framework, Pacific Islands Forum Leaders specify a range of commitments in relation to staying in place and the various forms of mobility. These commitments relate to many of the themes which have emerged from the research, including recognition of the importance of preserving biodiversity and the land and marine environment to enable Pacific communities to remain in place; [82] the need to strengthen

[79] The centrality of the ocean to Pacific peoples' identity is explored in depth the *Pacific Oceans Climate Change Assessment* (forthcoming 2024). University of Canterbury and University of the South Pacific.
[80] Forum Secretariat (n.d.) Pacific Regional Framework on Climate Mobility.
[81] This development sits within an emerging trend towards regionalisation at the global level. It sits alongside other regional processes reflecting increased recognition that (im)mobility requires an integrated response involving dialogue and cooperation between States. In July 2022, 15 African Member States signed the Kampala Ministerial Declaration on Migration, Environment and Climate Change (UNCC, 2022). In November the First Regional Conference on Human Mobility and Climate Change in Latin America and the Caribbean and the Organisation of Eastern Caribbean States (OECS) Ministerial Declaration was also agreed in 2023 by seven governments (IOM, 2023).
[82] Para 22.2.

collaboration in relation cross-border movement undertaken as adaptation to climate change; [83] and the need to engage with diaspora communities.[84]

Importantly, this Framework sits alongside and supports the strategic pathway in the *2050 Strategy for the Blue Pacific Continent* to "[e]nsure the protection and practice of the rights, cultural values and heritage and traditional knowledge of Pacific peoples in global and regional protocols for climate and disaster risk reduction, and mobility including relocation, migration, and displacement".[85] This strategic pathway recognises that understanding both current and future (im)mobility is important across a range of policy contexts. These contexts include the issues around statehood and the protection of persons, disaster risk reduction and sustainable development and loss and damage. There are important policy anchors for each.

## The Pacific Declaration on the Continuity of Statehood and the Protection of Persons in the face of Climate Change-Related Sea-Level Rise

In 2023, the Pacific Islands Forum Leaders expressed a regional position on statehood and protection of persons in the context of sea-level rise when they adopted the *Pacific Declaration on the Continuity of Statehood and the Protection of Persons in the face of Climate Change-Related Sea-Level Rise.*[86]

The issue of sovereignty has emerged in the research. In the future scenario workshops in Tonga and Samoa, in some of the engagements with Māori leaders, as well as through the outcomes of future visualisations run in Tonga and Samoa, future sovereignty-related risks – to legal sovereignty, economic control and identity were raised. Distinguished Professor, Linda Tuhiwai Smith CNZM remarked:

> *What does it mean for the Pacific when they move their existence elsewhere? If they vacate the Pacific, some other people or state will fill the space… How will they keep their … sovereignty if their islands are no longer above sea level?*[87]

As we have noted in the 'Pacific Peoples' section, a significant characteristic of populations in the Pacific context is the existence of *transnationally distributed populations*. Mobility and immobility have and will coexist. Understanding the scale and pattern of such distribution, as well as the impacts, is critical for discussions around both statehood and the protection of persons.

As to statehood, discussions often centre on loss of territory and habitability. That population is also a commonly recognised criterion of statehood tends to be overlooked. This means that (im)mobility as a factor shaping population over the long-term is not understood and factored into policy. It is clear that having transnationally distributed populations is not of itself problematic for ongoing statehood. Over time, migration has caused fundamental shifts in the distribution of the population. Yet, even when this has resulted in a decline in the resident population of a country of origin compared to what would have otherwise existed had people not moved and give birth abroad, this has not counted against the country continuing to exist as a State.

Take, for example, PICTs with relatively high rates of out-migration, such as Tonga and Samoa. The University of Waikato's report *Recent shifts, future signals* notes

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[83] Para 32.1.
[84] Para 42.2.
[85] Pacific Islands Forum (2022). *2050 Strategy for the Blue Pacific Continent* Available at.
[86] Available https://forumsec.org/sites/default/files/2024-02/2023%20PIF%20Declaration%20on%20Statehood%20and%20Protections%20of%20Persons.pdf accessed 15 April 2024.
[87] Vaioleti, L. et al. (2024). 59.

that, according to the Samoa Bureau of Statistics, in the 2021 Census, Samoa counted 205,557 people, an increase of 9,578 persons from the 2016 census.[88] According to Statistics New Zealand, the 2018 New Zealand census counted 182,721 people who identified as being Samoan, a significant increase from the 131,103 recorded in the 2006 census.[89]

As of 2018, approximately 45% had lived in New Zealand for 20 years or more.[90] Similarly, the 2018 New Zealand census counted 82,389 people who identified as Tongan, an increase from 50,478 in the 2006 census.[91] As with the Samoan population in New Zealand, approximately 45% had lived in New Zealand for 20 years or more, with an increasing proportion of those born in New Zealand, compared to the 2006 census. What is important for present purposes is that, but for migration, a large part of this New Zealand population would form part of the populations of Samoa and Tonga. The emergence over time of a distributed population outside the territory of Samoa and Tonga as an ongoing expression of a mobility-oriented Pacific identify has not, however, called into question the existence of Samoa or Tonga as States in their own right.[92]

This demonstrates that the population criterion for statehood under international law is neutral not to just population size (Crawford 2012, 478), but also distribution. **Supporting transnationally distributed populations to circulate between 'place' throughout their lives and over the long-term will support the continued presence of a population on a PICT and bolster claims to continuing statehood regardless of change in the ratio of land territory to marine area due to sea-level rise.** This is not new; New Zealand has been supporting and/or facilitating the circulation of persons from Niue, the Cook Islands and Tokelau for some time.

As regards the protection of persons, there is an increasingly recognised link between climate change impacts and the protection of human rights. Regionally, this is often expressed in terms of the economic, social, cultural wellbeing of Pacific peoples to which human rights undoubtedly relate.[93] Indeed, the concept of 'protection' – a core human rights obligation – features as 'priority action' under Goal 1 of the *Framework for Resilient Development in the Pacific*.[94]

The point to bear in mind here is that (im)mobility will determine which State has the primary responsibility to 'protect' enjoyment of rights through policy. This is because it is the decision to stay or go will bring an individual or a family under the jurisdiction of one or another country. **The scale and pattern of current and**

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[88] Vaioleti, L. et al. (2023a) and Samoa Bureau of Statistics (2023). Census. Website. https://www.sbs.gov.ws/census/ Accessed 25 April 2024

[89] Statistics New Zealand *2018 Census: Samoan ethnic group*. Website. https://www.stats.govt.nz/tools/2018-census-ethnic-group-summaries/samoan Accessed 25 April 2024

[90] Ibid.

[91] Statistics New Zealand *2018 Census: Tongan ethnic group* at: https://www.stats.govt.nz/tools/2018-census-ethnic-group-summaries/tongan accessed 25 April 2024.

[92] So too with New Zealand, which has for decades experienced significant levels of out-migration to Australia.

[93] See, the *Niue Declaration on Climate Change* (2008) *https://forumsec.org/publications/niue-declaration-climate-change* ;*Suva Declaration on Climate Change* (2015) at para. 7 https://pidf.int/wp-content/uploads/2017/07/Suva-declaration-on-climate-change.pdf ; the *Funafuti Declaration on Climate Change* (2016) https://www.mfed.gov.ki/sites/default/files/Funafuti%20Declaration%20Signed%208%20Oct%202016.pdf; *Boe Declaration on Regional Security* (2018) at para. 7.1; Leaders' Commitment iv in PIF (2022) *2050 Strategy for the Blue Pacific Continent*.10:

> "To secure the wellbeing of our people, we will work together to strengthen national and regional efforts to ensure all Pacific peoples benefit from enhanced provision of education, health and other services. To achieve this, we will place emphasis on learning from each other, drawing on scientifically-based research and traditional knowledge as well as promoting human rights, gender equality and the empowerment of all people." https://pacificsecurity.net/wp-content/uploads/2021/02/Boe-Declaration-on-Regional-Security.pdf

[94] FRDP, Goal 1 refers to 'Strengthened Integrated Adaptation and Risk Reduction to Enhance Resilience to Climate Change and Disasters' and Priority action i(p) references the need to:
Integrate human mobility aspects, where appropriate, including strengthening the capacity of governments and administrations to protect individuals and communities that are vulnerable to climate change and disaster displacement and migration ...
https://www.resilientpacific.org/en/framework-resilient-development-pacific

**future (im)mobility will give rise to an amalgam of co-existing obligations of one or more PICTs to protect the safety and wellbeing of Pacific peoples affected by climate change, and place a premium of cooperation between PICTs** (Burson, Kälin and McAdam 2021; International law Association 2024).

## Disaster risk reduction and sustainable development

The effective implementation of the Sendai Framework on Disaster Risk Reduction 2015-2030 ("the Sendai Framework') is fundamental to the realisation of the 2030 Agenda for Sustainable Development since sustainable development cannot be accomplished as long as disasters continue to undermine economic growth and social progress (UNDRR, 2016).

Human mobility is core concern of the Sendai Framework. Target B sets a goal of substantially reducing the number of persons affected globally by disasters by 2030. Included in the definition of persons affected are those who are "displaced, evacuated or relocated." While it may be necessary to temporarily flee from home to be safe from a hazard, displacement can have significant adverse humanitarian impacts and the individual, household and community levels, particularly if it becomes protracted. Well-designed an implemented disaster risk reduction activities are therefore critical to averting or minimising displacement and associated adverse impacts (UNDRR, PDD NRC, 2019).

2023 was the midpoint in the implementation of the 2030 Agenda for Sustainable Development, the Paris Climate Agreement, and the Sendai Framework. The UN General Assembly (UNGA) held a midterm review of the Implementation of the Sendai Framework. The resulting report notes "significant progress " at the regional level towards integration between climate adaptation and DRR policy and in the development of policies and plans in Pacific countries. However, the report notes two areas where more work is needed. First, to translate policy into practice and enhance the implementation of DRR-relevant policies at the local level. Second, to increase and simplify access to finance to implement DRR policy which "continues to remain a lengthy and complex challenge for most Pacific countries."[95]

The research findings highlight the importance both. It is at the local level where everyday resilience is practiced and where decisions are made for some or all family members to stay/and or to move. While remittances remain the most proximate form of climate adaptation and DRR financing at the household level, this must be supported by scaled-up financing from climate adaptation funding mechanisms including funding for supporting migration and relocation as forms of climate change adaptation.

The report also highlights capacity constraints. While a substantial number of institutions supported the review process through consultations, interviews, surveys, and focus group discussions, only Tuvalu and Kiribati provided voluntary national reports.[96]

Kiribati's report records the significant steps being taken at the national level to reduce disaster risk, but also the challenges it faces, including in relation to data gathering. The linkage between mobility and tension also emerges from the report which recognises displacement as factor affecting social stability.[97] Similarly, Tuvalu's report notes both the great strides taken to address disaster risk, but also the challenges it faces. Urbanisation and overcrowding due to rural-urban migration are specifically noted by Tuvalu as contextual factors shaping disaster risk in the period 2015-2022. As with Kiribati, that data gaps has prevented

[95] UNDRR (2023a), Midterm Review of Sendai Framework for Disaster Risk Reduction: 2015-2030 Pacific Regional Synthesis Report. 9.
[96] New Zealand and Australia also provided reports. See New Zealand: Voluntary National Report of the MTR SF https://sendaiframework-mtr.undrr.org/publication/new-zealand-voluntary-national-report-mtr-sf and ; Australia: Voluntary National Report of the MTR SF; https://sendaiframework-mtr.undrr.org/2023/mtr-sf-submissions-and-reports#voluntary (29 February 2024)
[97] UNDRR (2023c), Sendai Framework for Disaster Risk Reduction: Midterm Review Report by the Republic of Kiribati, p26. https://sendaiframework-mtr.undrr.org/publication/sendai-framework-disaster-risk-reduction-midterm-review-report-republic-kiribati

substantial analysis is expressly recognised as factor limiting Tuvalu's progress towards Sendai Framework Target B.[98]

That addressing displacement cannot be divorced from sustainable development is one of the key messages emerging from the February 2021 Pacific regional consultation meeting which fed into the work of the United Nations Secretary General's High-Level Panel on Internal Displacement. Fourteen PICTs participated. Ten delivered country statements highlighting best practices to avert, address and resolve internal displacement in the context of climate change and disasters. The meeting also highlighted the need for physical, emotional and psychological support to assist in the movement of communities or individuals, the need for informed local actors and increased training to provide this support.[99]

The economic and social consequences of protracted displacement compromise a country's ability to achieve its overall development goals.[100] Avoiding situations of protracted displacement as part of a wider disaster risk management strategy which reduces risk and supports both individuals and communities to quickly and effectively recover from disasters, produces a range of 'resilience dividends'. In the short-term it avoids losses, during the medium-term it stimulates economic activity due to decreased disaster risk, while over the long-term disaster management investments can produce development co-benefits which, like the medium-term gains, can materialise even in the absence of a disaster.[101]

Such long-term planning is evident from the research. The research noted ongoing efforts in Samoa for a Cross Island Road. This is seen as possible 'climate infrastructure' as, on completion, it will provide better connections inland and across the island, potentially allowing for easier retreat and relocation inland. Also noted in Samoa was an upstream dam project to manage flood risks with associated development gains including for renewable energy generation.[102]

## Loss and Damage

The relationship between forms of human mobility and loss and damage is gaining much attention at the global level, in terms of institutional arrangements and research.

At the institutional level, the international community agreed at COP 28 in 2023 to not only operationalise the UNFCCC Loss and Damage Fund but also to include within its scope "displacement, migration and relocation".[103] At the technical and research level, in 2023, the State-led Platform on Disaster Displacement in collaboration with the Loss and Damage Collaboration (L&DC) jointly developed a submission to contribute to the work of the Expert Group on Non-Economic Losses of the Executive Committee of the Warsaw

[98] UNDRR (2023d), Sendai Framework for Disaster Risk Reduction: Midterm Review Report by the Government of Tuvalu. https://sendaiframework-mtr.undrr.org/publication/sendai-framework-disaster-risk-reduction-midterm-review-report-government-tuvalu

[99] See Executive Summary, *Pacific Regional Consultation on Internal Displacement: Pacific perspectives and practices on climate change and disaster displacement* At https://www.un.org/internal-displacement-panel/sites/www.un.org.internal-displacement-panel/files/record_of_discussions_hlp_internal_displacement_pacific_consultation_final.pdf < accessed 17 March 2024).

[100] UNDRR (2018) *Disaster Displacement: How To Reduce Risk, Address Impacts And Strengthen Resilience ,Words Into Action*, p21. At: https://www.preventionweb.net/files/58821_wiadisasterdisplacement190511webeng.pdf

[101] ODI, GFDRR and the World Bank (2015) *The Triple Dividend of Resilience Realising Development Goals Through the Multiple Benefits of Disaster Risk Management*, p14. Available At: https://www.gfdrr.org/sites/default/files/publication/The_Triple_Dividend_of_Resilience.pdf Accessed 15 April 2024.

[102] Vaioleti, L. et al. (2024). 78, 89.

[103] Decision -/CP.28 -/CMA.5 *Operationalization of the new funding arrangements, including a fund, for responding to loss and damage referred to in paragraphs 2–3 of decisions 2/CP.27 and 2/CMA.4* , Annex 1 Part II, paragraphs 6 and 9, Available at https://unfccc.int/sites/default/files/resource/cma5_auv_10g_LnDfunding.pdf Accessed 15 April 2024.

International Mechanism (PDD 2023).[104] The submission draws from a variety of sources and background material and emphasises a number of key policy and operational issues including the need to address persisting data and knowledge gaps, the need to avoid a strict dichotomy and see the interconnections between economic and non-economic losses, the need to look at and address specific conditions of vulnerability, and the need for integrated policy and operational approaches.

The Pacific Regional Climate Mobility Framework recognises that "movement away from home can result from, be a form of, and cause loss and damage of an economic and non-economic nature". It also recognises that loss and damage can occur even when staying in place, as climate change impacts "may threaten our customary practices and traditions".[105]

This is reflected in the research.[106] For example, in the Cook Islands, a research participant shared the following concern:

> *We will lose the essence of every practice that we have that is based on the oile (village) - tawa, yolonga, wua and pule. With the loss of everything that is related to our identity and who we are, we will be lost.* (Pukapuka, Cook Islands)[107]

The research also demonstrates that **understanding loss and damage is critical to understanding not just the impacts of disasters and climate change but also the scale and pattern of (im)mobility as it is perceptions of risk and loss – loss of relationships to people, to place (in its broader sense) – which will inform decision-making around whether, when and where to move.**

For example, research participants in Tonga and Samoa shared the following:[108]

> *The land is getting smaller and smaller… I'm fearful when I'm here – the sea is on both sides, I see erosion on both sides… the fear has been there since before the tsunami, there's nowhere to escape, nowhere to run… I'm getting too old to run!" (Ha'apai, Tonga)*

> *Forgive me, I feel I need to explain my responses. Though I've said I have not moved and do not plan to move, it is because I cannot move, not because I don't realise the risk of living [in Pa'atangata]. I do not have the [financial] means to move, but I am also the eldest in the family. I need to stay to look after my parents, as well as my younger siblings who are not married. (Pa'atangata, Tonga)*

> *There is just me and mum but everyone else is away... my siblings, I hope they come back and stay at the house and look after the land… that's the hope but they are doing well and they are well established [overseas]. ( Lelata, Samoa)*

# *THE DIVERSE PACIFIC*

In the previous section the distinctive place that Papua New Guinea has in any assessment of the region's population history and development was given prominence. In this section the diversity in Pacific populations

[104] The submission is available at https://www.lossanddamagecollaboration.org/publication/pdd-and-l-dcsubmission-toinform-the-unfcccs-non-economic-losses-nels-technical-paper-2023-human-mobility-and-non-economic-loss-and-damage Acceed 15 April 2024.
[105] See Climate Mobility Framework, at paragraphs 4 and 18.
[106] We will deal with the evidence gahtered by the research teams in terms of loss and damage in the section on current (im)mobility.
[107] Newport, C. et al. (2024d).
[108] Vaioleti, L et al. (2024).

is given priority, drawing on various reports addressing aspects of population change at the regional and national scales.[109]

The regional assessment of Pacific populations grouped the 21 PICTs (including Papua New Guinea) into five clusters based on several dimensions of their recent and future demographic development, including the access that their populations have to temporary and long-term residence in countries within as well as outside the region – access that is critically important in the context of climate (im)mobility. Also informing the discussion of international migration in the Pacific in this section are two earlier reports which have direct relevance for the assessment of climate (im)mobility.[110] These reports are introduced briefly before outlining some key characteristics of the populations in the five clusters that have relevance for contemporary as well as future climate (im)mobility.

## The regional architecture of contemporary Pacific mobility

It has already been noted that there are two dimensions to Pacific populations: the in-country populations and their populations that are living overseas. The relative importance of these populations in the different PICTs varies significantly. This variation is due, in large measure, to a legacy of colonialism: the imposition of a system of boundaries (invisible lines) between countries and territories and the emergence of national policies to regulate flows of people across these boundaries. A key outcome of this legacy has been some major differences in both the scale and pattern of international migration and its impact on the development of transnational Pacific populations.

First, Burson and Bedford (2013) demonstrate how citizens of particular groups of countries (clusters) have privileged access to temporary visas for work or study as well as to long-term residence visas either in a particular country (hub) in the cluster, or in the various countries that comprise the cluster. Figure 7 shows the distribution of three major "clusters" and "hubs" in the Pacific that owe their origins to a century or more of European colonisation of the region.

In Figure 7, the Pacific countries north of the equator plus American Samoa (the cluster) have privileged access to work and residence in the USA (the hub). In the Pacific colonies of France (French Polynesia, New Caledonia and Wallis and Futuna) the indigenous populations have privileged access to French citizenship. The countries in the largest cluster encompass the current and former members of the Realm of Aotearoa New Zealand in Polynesia (Cook Islands, Niue, Samoa, Tokelau) as well as Fiji, Kiribati, Papua New Guinea, Nauru, Solomon Islands, Tonga, Tuvalu and Vanuatu. All have a range of access arrangements regarding entry to New Zealand, either on the basis of citizenship, or through specific visa categories for residence (Pacific Access Category) or temporary work (the RSE scheme).

[109] The relevant reports are:
Bedford, R.D. et al. (2023a); Bedford, R.D. et al. (2023b); Friesen, W. Bedford, R.D and Underhill-Sem, Y. (2023) *Country reports on population dynamics in the Pacific, 1950-2020*. University of Auckland.; Vaioleti, L., Vaioleti, T. and Morrison, S. (2023a) *Recent shifts, future signals. Painting a picture of Tonga/ns and Samoa/ns 2050*. University of Waikato.; Vaioleti, L. et al. (2024); and Vaioleti, T. et al. (2024)

[110] The relevant reports are:
Burson, B. and Bedford, R.D. (2013) *Clusters and Hubs: Toward a Regional Architecture for Voluntary Adaptive Migration in the Pacific.* Geneva: The Nansen Initiative: Disaster-Induced Cross-Border Displacement. (https://www.researchgate.net/publication/274254810_Clusters_and_Hubs_Towards_a_Regional_Architecture_for_Voluntary_Adaptive_Migration_in_the_Pacific?ev=prf_pub); and Burson, B. et al. (2021).

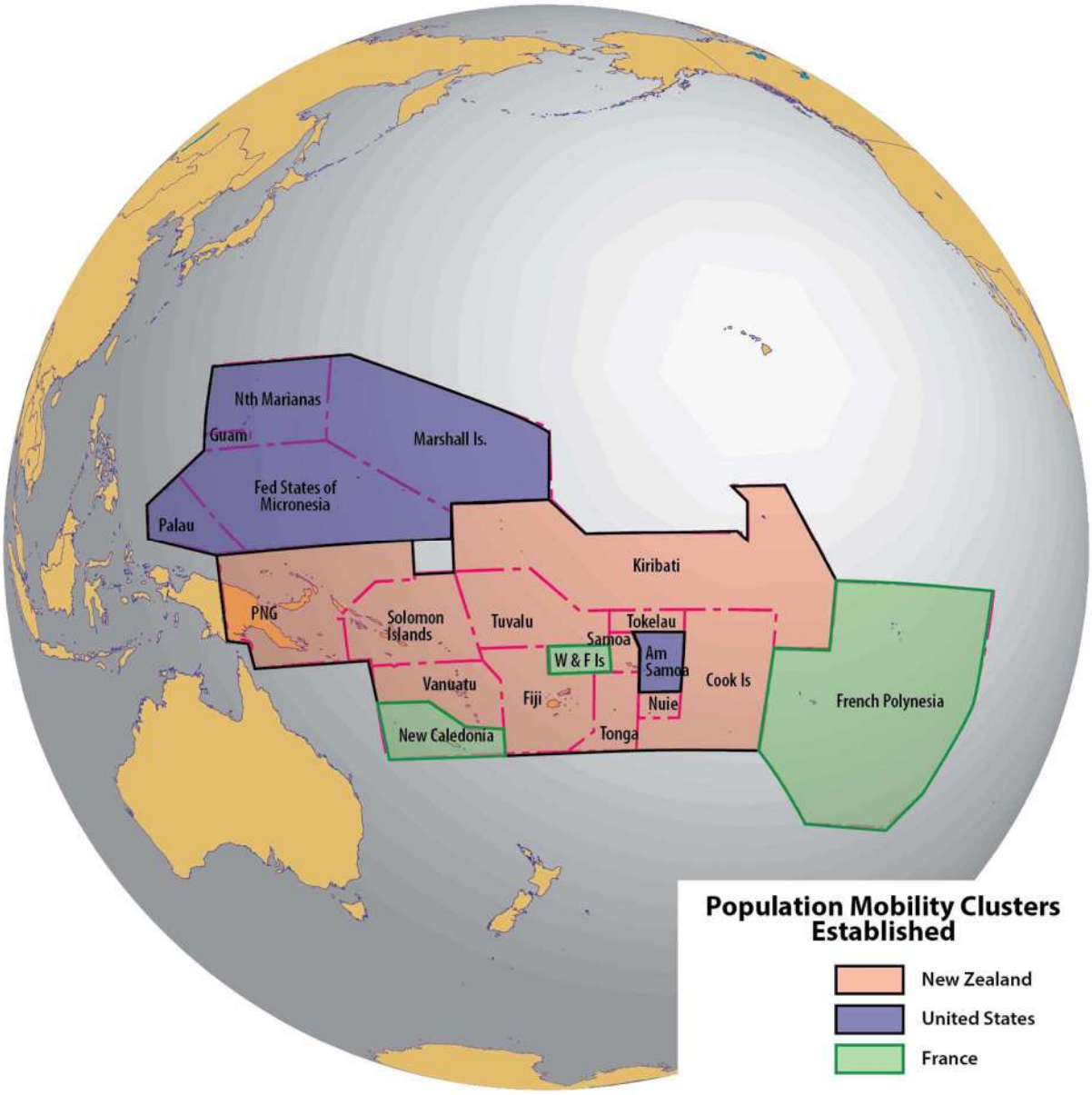


***Figure 7: Established population mobility clusters and hubs in the Pacific***
Source: Burson and Bedford (2013). 27.

Second, in Burson et al. (2021) the cluster-hub model is explored further in reference to flows of people who were born in Pacific countries and move to other countries in the region (intra-Pacific mobility), to countries on the Pacific rim, and to other parts of the world. The architecture for voluntary adaptive migration in the Pacific is not static and in this report Fiji is identified as an important hub for a cluster of countries in the region. Another recent innovation is the revolution in Australia's immigration policy relating to the temporary and long-term entry of citizens of many PICTs since 2009. Australia now merits hub status in the Pacific's regional architecture for voluntary migration.[111]

The database compiled for the analysis of clusters and hubs in these two reports has been used to inform the discussion of international migration in the five sub-regional clusters of PICTs that form the substance of the review of diverse Pacific populations below.

[111] See Bedford, R.D. (2023b) *Recent developments in the immigration policy context for the project on "Climate mobility in the Pacific: regional population dynamics and impacts of mobility". Report to the University of Auckland team, May 2023 (revised June 2023). 30pp.*

## Diverse Pacific populations

Several key findings from the research on population dynamics are presented with reference to five sub-regional clusters of countries. These clusters provide useful groupings of PICTs for reviewing developments in population movement in the region, including likely future trajectories for internal and international climate (im)mobility.

The clusters, which are discussed in turn, are:

6. The western Pacific cluster (Papua New Guinea, Solomon Islands, Vanuatu)
7. The central Pacific cluster (Fiji, Kiribati, Nauru, Tuvalu)
8. The eastern Pacific cluster (American Samoa, Cook Islands, Niue, Samoa, Tokelau and Tonga)
9. The northern Pacific cluster (Guam, Federated States of Micronesia, Marshall Islands, Northern Mariana Islands, Palau)
10. The French territories cluster (French Polynesia, New Caledonia, Wallis and Futuna)

Before examining characteristics of the populations in each of the five clusters comparative perspectives on their growth trajectories are provided in Table 1 and Figure 8.

**Table 1: Population change in the Pacific, 2000-2100**

| Cluster | 2000 | 2020 | 2050 | 2100 |
|---|---|---|---|---|
| Western Pacific | 6,130,350 | 10,752,510 | 16,714,340 | 21,570,930 |
| Central Pacific | 941,350 | 1,070,270 | 1,310,650 | 1,313,420 |
| Eastern Pacific | 353,350 | 360,610 | 377,290 | 384,180 |
| Northern Pacific | 426,180 | 392310 | 449,080 | 405,000 |
| French Territories | 487,190 | 599980 | 711,470 | 658,290 |
| **Total Pacific** | **8,338,420** | **13,175,680** | **19,562,830** | **24,331,820** |
| % in Western Pacific | 73.5 | 81.6 | 85.4 | 88.7 |

Data sources: UNDESA and SPC

Drawing on estimates and projections of populations prepared by the United Nations Population Division in the Department of Economic and Social Affairs (UNDESA) and the Statistics for Development Division of the Pacific Community (SPC) the region's population is projected to treble during the 21st century, increasing from around 8.3 million in 2000 to around 24.3 million by 2100 (Table 1).[112] As already noted in Figure 3, just over 80% of Pacific peoples were living in the western Pacific cluster in 2020 and this share of the region's total is projected to increase to 89% by the end of the century.

There are three distinctive trajectories of population change that can be identified in the UNDESA and SPC data for the five clusters. These trajectories are summarised in Figure 8 using index numbers with the

[112] The UNDESA's 2022 estinates and medium variant projections for country populations in the region are the primary source for the data in Table 1 relating to the western Pacific, central Pacific, northern Pacific and French Territories. The SPC's 2022 estimates and medium variant projections for Pacific ountry populations are the primary source of data relating to the eastern Pacific. Some of the strengths and weaknesses of the population data from these two sources are discussed in Bedford et. al (2023b). 12-15.

population for 2000 in each cluster based at 100. Subsequent growth (or decline) in each cluster's population is shown in the graph relative to the population in 2000.

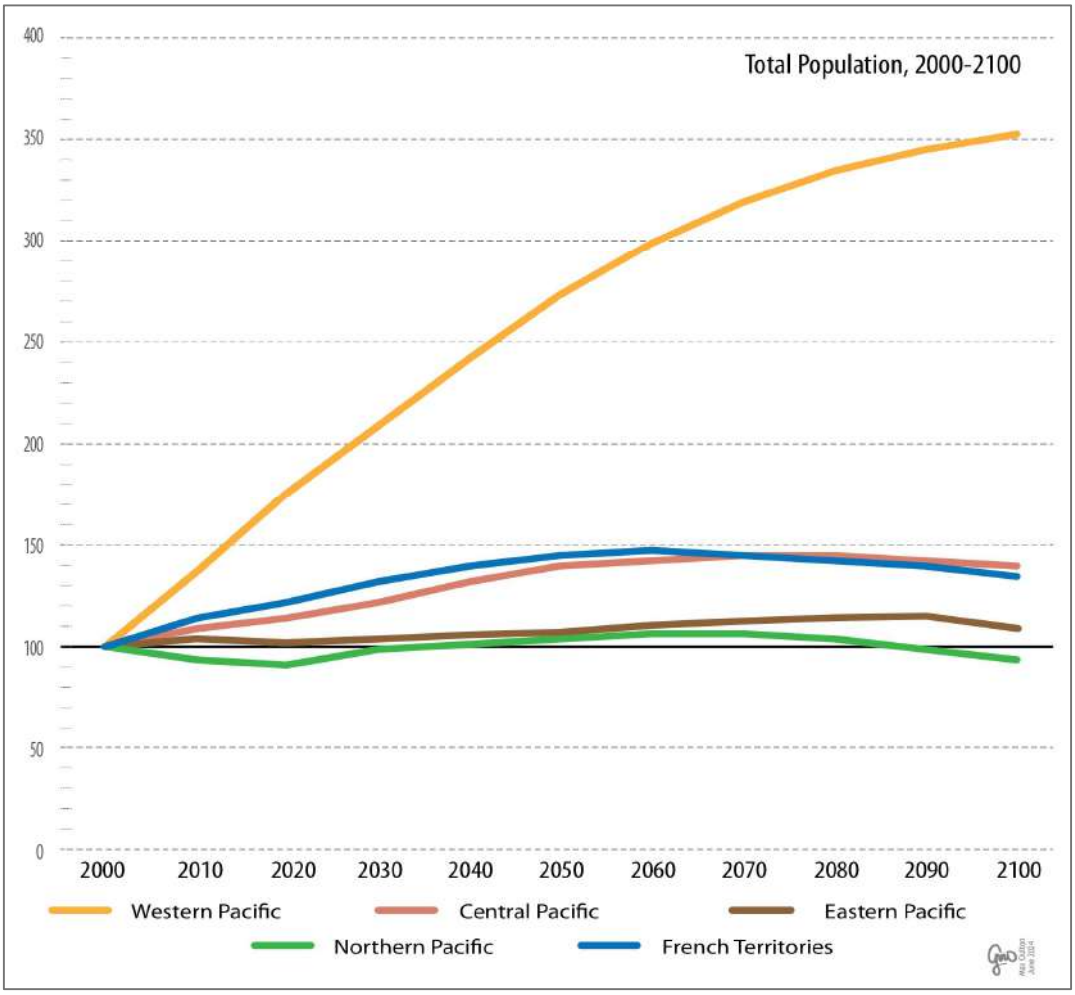


***Figure 8: Population change in the five clusters using index numbers, 2000-2100 (2000=100)***

The trajectory for the population of the western Pacific is completely different from the trajectories for the other four clusters. Most of the growth in the Pacific's population during the 21st century will occur in this cluster because of a combination of high levels of natural increase and comparatively low levels of net migration loss to overseas destinations. The net migration losses will increase but will be small by comparison with the additions to the population through natural increase (the balance of births over deaths).

Two different trajectories are evident in the projections of the populations for the other four clusters. The two clusters with modest growth include the countries with the most advanced industrial economies in the region – Fiji (central Pacific) and New Caledonia (French territories). Both these countries are hubs for migrants from other parts of the region, especially countries in their clusters. They are also clusters with much lower rates of natural increase than is found in the western Pacific because of declining fertility and variable histories of net migration losses to countries outside the Pacific region.

The remaining two clusters – eastern and northern Pacific – have the lowest projected population growth due to a combination of net migration losses, especially to countries on the Pacific rim, and variable histories of fertility decline. The populations in these clusters, as well as in the central Pacific and French territories clusters, are projected to be experiencing absolute population decline before the end of the century. This is in contrast to the trajectory for the western Pacific's population which will still be growing by 2100.

In the context of these different trajectories for population growth, the structures and spatial distributions of the populations in the five clusters are now examined in turn.

## The western Pacific cluster

The populations of the three countries in the western Pacific cluster all have youthful age-sex structures which are the product of sustained high fertility rates over the past 50 years.[113] Population growth in the western Pacific is being led by natural increase (the balance of births over deaths). Such population growth is referred to as being momentum-led because it is a product of natural increase in the resident population.

A good indicator of a population with high growth potential is its age-sex structure. The age-sex pyramids for the combined population of the three western Pacific countries in 1970, 2020 and 2050, shown in Figure 9, are excellent examples of a population with high growth potential.

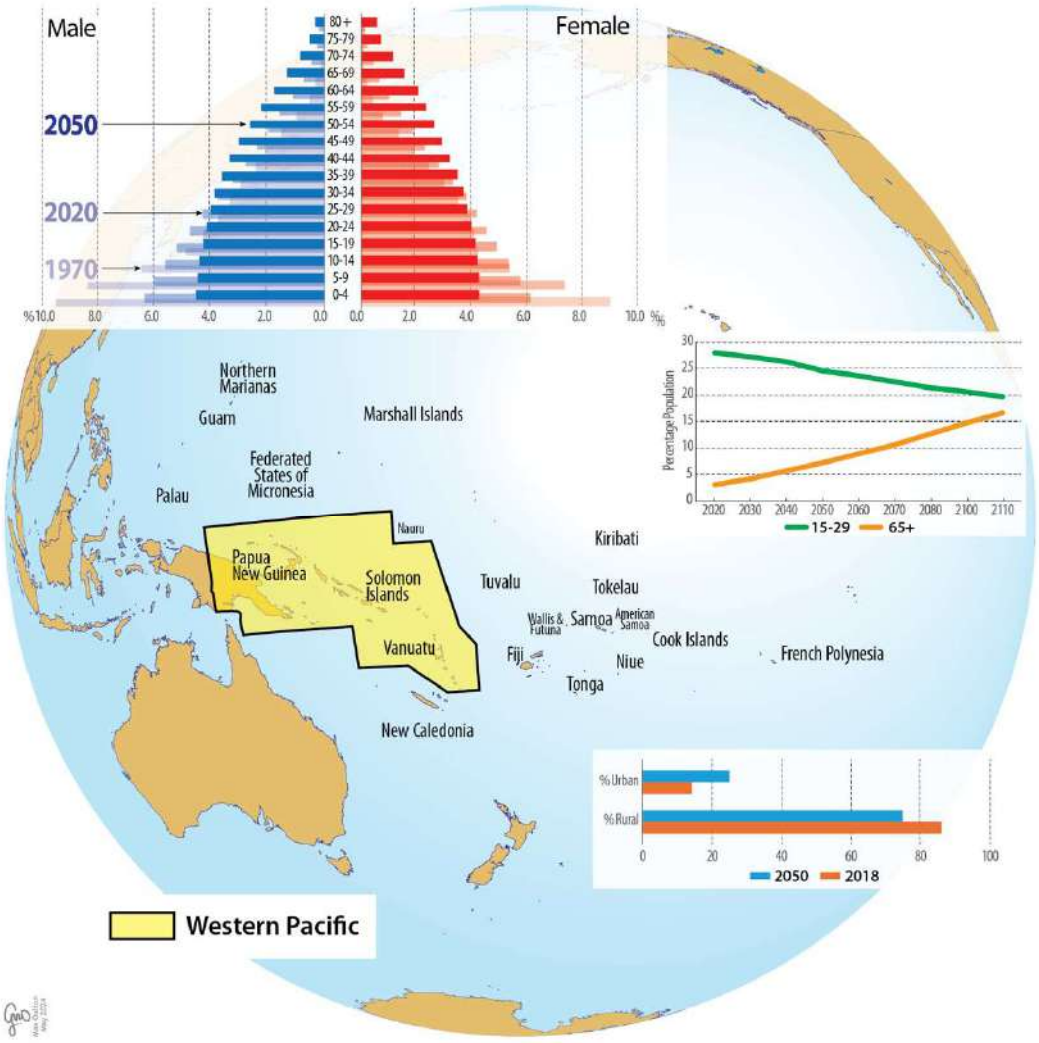


***Figure 9: Changes in population structure and rural-urban distribution, western Pacific cluster 1970-2100***

The age group at the base of the pyramid for the population in 2020 in Figure 9 remains wider than any of the age groups above it, indicating that at least as many children are being born each year as were born in preceding years. Fertility is falling, however, because the percentages of the males and females that are in

[113] See Friesen, W. et al. (2023) for national demographic profiles for Papua New Guinea, Solomon Islands and Vanuatu. 57-76

the 0-4 age group have been shrinking since 1970, and by 2050 are likely to be slightly smaller than the percentages aged 5-9 years in the UN's projected population for that year (Figure 9).

### *The burgeoning youthful and older populations*

While the percentage shares of young children in the population of the western Pacific have been falling since the early 1970s, this does not mean that absolute numbers are falling. Between 2020 and 2050, the number of children aged 0-14 years in the western Pacific is projected by the UN to increase by around 600,000 (16%) from 3.8 million to 4.4 million. This increase in the western Pacific's child population is equivalent to 200,000 more people than the UN's projected total population of around 380,000 for the six countries comprising the eastern Pacific cluster in 2050.

These numbers relating to the scale and pattern of population change are significant in the context of climate (im)mobility because over 80% of the region's population who are faced with adapting to climate change are living in the western Pacific. In 2020, just over 3 million (83%) of the region's 3.6 million people in the younger working age population (15-29 years) were resident in the western Pacific cluster. **This is the population that was found to be the most "mobility willing" in the survey of Samoans living in-country and overseas – a finding that was also reported in some of the community and muti-generational family studies.**[114]

As can be seen in the line graph in Figure 8, which shows changes in the percentages of the cluster's total population aged 15-29 and 65+ between 2020 and 2100, just under 30% of the western Pacific's residents in 2020 were 15-29 year-olds. This is the highest share of the population in this age group in 2020 in all of the five clusters. While the *percentage* of the western Pacific's total population in the 15-29 year group is projected to decline from 28% in 2020 to 25% by 2050 (Figure 9), the actual *number* of youthful workers in the cluster will increase over this period by 1.1 million (37%). Because of the greater propensity of this group to move in any population, the research teams all made a point of seeking information on the mobility experiences and plans of youth in their interviews and surveys. These findings are discussed further in a later section.

**If the younger adult population is amongst the most mobile component of a population, the older population (65 years and over) tends to be the least mobile or the least inclined to be mobile**. This was reinforced in the findings from the surveys, community and family studies carried out by the three teams. These are what have been termed the "steadfast stayers" and their share of the population is increasing in all clusters. In the western Pacific they comprised only 3% of the total population in 2020, but by 2050 this share will have more than doubled to over 7%, and 50 years later it will almost equal the young adult's share in the population. As the line graph in Figure 9 shows, the percentages of the population aged 15-29 and 65+ in the western Pacific will gradually converge during the 21st century.

**This is an important finding because at the same time that communities and policy makers are coping with the mobility of increasing numbers of young adults, they will be simultaneously addressing issues associated with preferences for staying in place amongst the older population**.

[114] The University of Waikato team differentiated between what they termed the "mobility-willing" and the "steadfast-stayers" on the basis of their findings from surveys of around 600 Tongans and Samoans living in Tonga and Samoa. Amongst other things, these surveys sought information on the impact climate change was already having, or might have, on mobility decisions in the next five years. See Vaioleti, L. et al. (2023b) and Vaioleti, T. et al. (2024a). In Samoa the younger working age population (18-24 years) was found to be more likely to move to live somewhere else in the country or overseas than those in the older age groups (45-54 years). In the Tonga survey, those in an older working age group (35-44 years) were classified as being the "mobility-willing" with those aged 45 years and older being in the "steadfast-stayers" group (Vaioleti, L., (2023). 5). Findings relating to the mobility decision-making process in the various national, community and family contexts explored by the three teams are discussed in greater detail later in this report.

### *Population distribution in-country and overseas*

It has already been shown that staying in place in 2020 means staying in rural communities for the great majority of residents in the western Pacific (see Figure 3). While the urban population in this cluster is projected by the UN to almost double between 2018 and 2050, increasing from 1.3 million to 3.9 million, there will still only be 25% of people living in urban areas in the western Pacific by 2050 (see the bar graph in Figure 9). [115] For the great majority of people living in this cluster, coping with climate change will be managed in rural settings, not in towns, even though just over two-thirds of the 5.8 million people projected to be living in Pacific towns by 2050 will be in urban places in the western Pacific.

The distinctive features of the western Pacific's youthful population structure and predominantly rural distribution are given further policy relevance by the fact there has been little opportunity for people from this cluster to move overseas either on visas for temporary work or study, or long-term residence in other countries. As shown earlier in Figure 4, only 55,000 people born in Papua New Guinea, Solomon Islands and Vanuatu were living overseas around 2019, according to UN and World Bank estimates cited in Burson et al. (2021, 41). This was equivalent to less than 1% of the combined in-country and overseas-resident populations born in the western Pacific.

There are no sizeable transnational populations of Papua New Guineans, Solomon Islanders and ni-Vanuatu in 2020 that come close to comparing with those found in the central, eastern and northern Pacific clusters. **In the absence of extended families that include overseas residents, options for mobility to countries on the Pacific rim, as a response to impacts of climate change, are much more limited for residents in the western Pacific cluster than for those who have transnational kin networks.**

The importance of these transnational networks, which have intergenerational dimensions that extend well beyond the original migrants who were born in particular Pacific countries, was demonstrated clearly in the climate mobility surveys carried out as part of the research, and in responses to questions about climate change in the community studies and in the multigenerational family studies.

International migration outlets for citizens of the countries in the western Pacific are increasing, especially in Australia. The recently announced quotas for the 3,000 residence visas that will be balloted annually under Australia's new Pacific Engagement Visa (PEV - 1,350 for PNG, 150 for Solomon Islands and 150 for Vanuatu[116]) will contribute to building transnational communities from these countries over time, in the same way that New Zealand's Samoan Quota and Pacific Access Category visa provisions have contributed to building transnational communities of citizens of Samoa, Tonga, Fiji, Kiribati and Tuvalu. But the PEV will have limited impact on responses to climate change at the national level given the sizes of the populations in these countries and their ongoing high rates of natural increase. Mobility decisions taken in response to impacts of climate change will, by necessity, have to continue to favour consideration of destinations within these countries, at least through to 2050.[117]

## The central Pacific cluster

The countries that are in the central Pacific cluster include Fiji with the second largest population in the region (900,000 million in 2024 according to the SPC's 2022 projections) and three much smaller populations in Kiribati (126,000), Nauru (12,000) and Tuvalu (11,500) (Figure 10).

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[115] The UN's data relating to urban populations in the Pacific in 2018 and 2050 come from Table 1 in Campbell, J.R. (2019). *Climate change and urbanisation in Pacific Island countries*, Policy Brief no. 49, Toda Peace Institute, Tokyo. 3.

[116] See Howes, S. (2024) PEV quotas: winners and losers. *DevPolicy Blog*, Development Policy Centre, Australian National University, 1 May 2024. Accessible at: https://devpolicy.org/pev-winners-losers-20240501/

[117] For further discussion of mobility options in response to climate change, see Bedford et al. (2023b) and Vaioleti, L. et al. (2024).

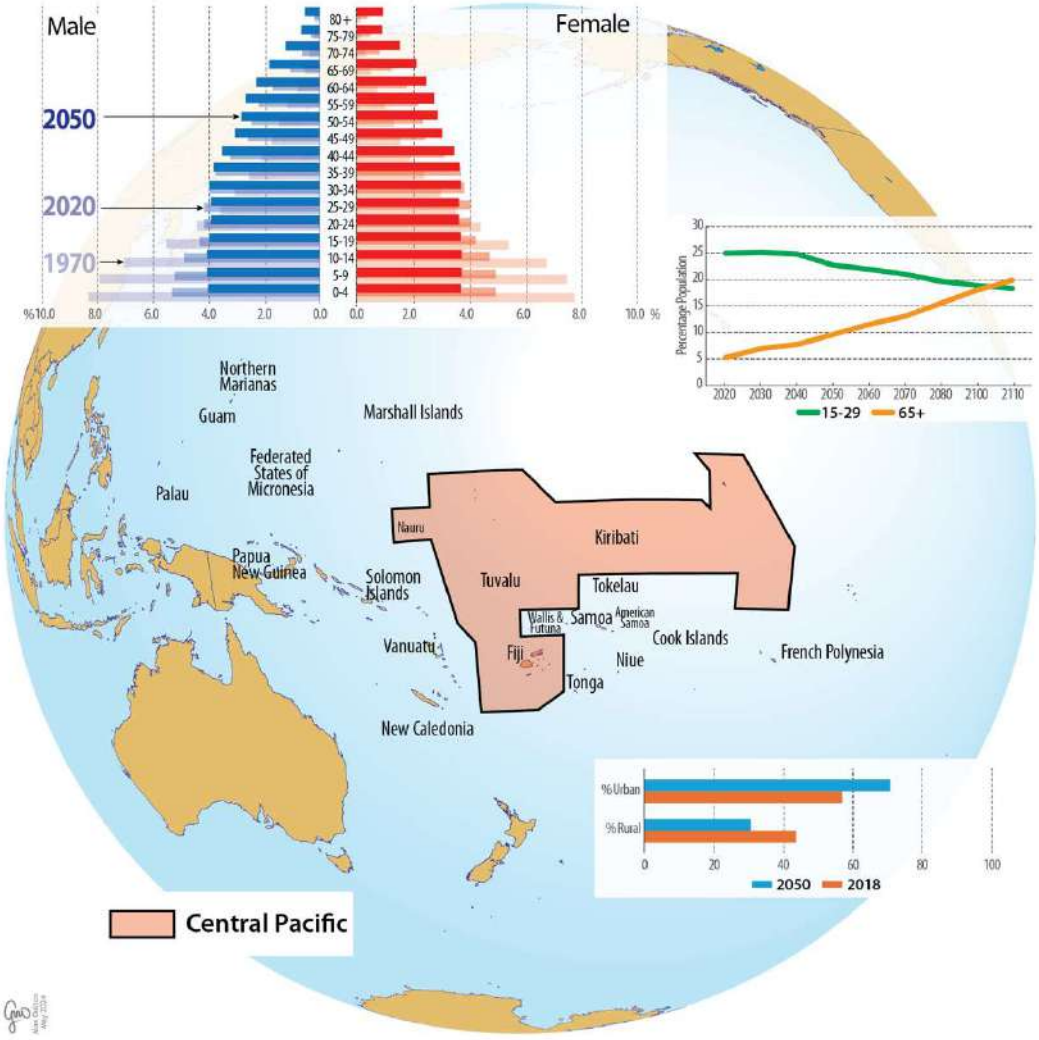


***Figure 10: Changes in population structure and rural-urban distribution, central Pacific cluster 1970-2100***

A feature that this cluster has in common with the western Pacific is the complete domination of cluster's demographic characteristics by one population. The age-sex pyramids and graphs in Figure 10 show changes in the structure and distribution of population in the central Pacific for various periods between 1970 and 2100, and reflect patterns that are particularly relevant for Fiji's population.[118] The reason for grouping them is because they have some distinctive links associated with their colonial heritages that have the potential to be very significant in the context of climate (im)mobility.

### *Some common trajectories, linkages and legacies*

There are some similarities in the trajectories of population change in the four countries. All populations have been experiencing declining fertility, partly in response to government-sponsored family planning programmes that date back to the 1970s, particularly in the cases of Fiji and the former Gilbert and Ellice Islands Colony (now Kiribati and Tuvalu). The impact of declining fertility can be seen in the narrowing base of the population pyramids in Figure 10 between 1970 and 2020 and the similar percentages in the age groups between 0-4 years and 25-29 years in the pyramid for 2050. The latter pattern is not present in the pyramid for 2050 in the western Pacific. This is due, in part, to the much more significant role that international migration has been having on shaping the population pyramids for the central Pacific cluster than has been the case in the western Pacific.

[118] Demographic profiles for Fiji, Kiribati and Tuvalu can be found in Friesen et al. (2023). 34-56. Nauru was not an in-scope country for this project but comparative information on aspects of its fertility, mortality and migration between 1950 and 2100 can be found in Bedford et al. (2023a). 28-31.

Fiji is an increasingly important hub in the Pacific. It is the headquarters for several regional offices for the UN and other agencies operating in the Pacific, the base for the region's largest university (the University of the South Pacific) and one of its main technical training institutions (Fiji National University). Its airline, Fiji Airways, is also the largest provider of international air services linking countries in the region and on the Pacific rim. It is the major destination for intra-Pacific migrants seeking employment, education and residence in the region and is a prominent source of skilled migrants to other Pacific states.[119]

Fiji Airways and, at times, Air Nauru, are the only airlines that provide regular services to Kiribati and Tuvalu. These four countries are linked by another legacy of colonialism in the central Pacific – phosphate mining on Nauru and Banaba (Ocean Island, in Kiribati) by the British Phosphate Commission, a consortium of Australian, Aotearoa New Zealand and British commercial interests. The phosphate industry on Nauru and Banaba provided employment for thousands of I-Kiribati and Tuvaluans for several decades, cementing long-standing connections and relationships between the three coral countries.

To enable expansion of mining into village sites on Banaba, Banabans were resettled on Rabi Island in Fiji the late 1940s. The relocation of the Banabans was followed by the purchase of a neighbouring island, Kioa, in Fiji by community leaders from Vaitupu in Tuvalu in the late 1940s to provide a safety valve in the event of population pressure on the limited land resources of their atoll.

Fiji thus has long-established I-Kiribati and Tuvaluan communities, and has been a very significant source of education, health and international air transport services to the populations of these two countries especially since they became independent states in the late 1970s. These relationships have been strengthened further during the past 15 years through the purchase of land on Vanua Levu in Fiji by the Kiribati government as part of a long-term strategy to secure homes for I-Kiribati who may have to leave their islands because of damage caused by climate change. A commitment has also been made by Fiji's former Prime Minister to provide support with resettlement if required in the future.[120]

### *Population distribution in-country and overseas*

In addition to these strong historical and contemporary links, the countries in the cluster share some similar population distribution characteristics. As the bar graph in Figure 10 indicates, they all have at least half of their populations living in urban places which are all located on or close to the coast. By 2050 at least 75% of the cluster's population will be urban-resident, the opposite of the situation in the western Pacific.

Communities in both rural and urban areas in Kiribati and Tuvalu are grappling with challenges of marine erosion and saltwater intrusion into the freshwater lenses that are essential for life of plants, animals and people on atolls. Community and family studies on Abaiang, Maiana, Nonouti and South Tarawa in Kiribati and Nanumanga, Niutao and Funafuti in Tuvalu provide graphic evidence of the challenges posed by climate change. Coping strategies by residents, as well as family members living in other places, including overseas, facing these challenges are discussed in later sections of this report.

The four Central Pacific countries have transnational dimensions to their populations: Fiji in Aotearoa New Zealand, Australia, the USA and the United Kingdom; Kiribati in Fiji, Solomon Islands, Aotearoa New Zealand, Australia, and the USA; Tuvalu in Fiji, Niue, Aotearoa New Zealand and Australia; and Nauru in Australia and

[119] See Burson and Bedford (2021) for further information on Fiji's role as destination for migrants born in other Pacific countries and as a source of skilled migrants in the region.

[120] When opening a flood evacuation centre in the village of Welagi early in 2015, the Prime Minister of Fiji stated that: "in 50 years or so [places like Kiribati, Tuvalu and the Marshall Islands] may no longer exist. And we may have to give some of these people homes in Fiji ... [b]ecause we will never turn our backs on our island neighbours". Cited in Campbell, J.R. and Bedford, R.D. (2023) Climate change and migration: lessons from Oceania, in A. Triandafyllidou (ed.) *Routledge Handbook of Immigration and Refugee Studies* (2nd Edn), Oxford, Routledge. 379

Aotearoa New Zealand. The overseas components of these transnational populations tend to be relatively small by comparison with the populations living in the islands, although Tuvalu's transnational community in Aotearoa (around 4,600 in 2018) is the equivalent of 44% of the SPC's estimated population of 10,400 for Tuvalu in that year.

In 2024 citizens of the four countries are eligible to participate in the seasonal work schemes that have been operating in Aotearoa New Zealand and Australia since the late 2000s, as well as in Australia's longer-term PALM visa programme. Three of the countries have annual residence quotas in Aotearoa New Zealand's Pacific Access Category (Fiji 250, Kiribati 75, and Tuvalu 75) and three of them have recently been granted annual residence quotas for Australia's PEV (Fiji 300, Nauru 100 and Tuvalu 100).[121] In contrast to the countries in the western Pacific cluster, populations in the central Pacific have had some access to work and residence opportunities overseas for many years.

In this context, they have more options regarding movement overseas as a strategy for coping with climate change. They also have significant flows of remittances, goods and information from overseas kin. But their transnational populations are small in proportional terms by comparison with those that are found in the eastern Pacific – the cluster where the overseas components of their populations are all much bigger than the island-resident components.

## The eastern Pacific cluster

The six PICTs in the eastern Pacific cluster includes the Realm countries of Cook Islands, Niue and Tokelau, whose indigenous populations have New Zealand citizenship, Samoa, Tonga, and American Samoa. Samoa and Tonga have had very strong links with New Zealand for over a century, have annual quotas for residence visas in New Zealand, and are part of the RSE and PALM labour mobility schemes in New Zealand and Australia. American Samoa is an Unincorporated Territory of the United States of America (Figure 11).

The latter has been included in the eastern Pacific cluster rather than with the other US-aligned PICTs north of the equator because of indigenous cultural connections with Samoa. Through these connections, Samoans especially, but also many Tongans, have taken advantage of employment opportunities in American Samoa and on the west coast of the United States more generally. The very large Samoan and Tongan transnational populations in the United States owe their origin, in part, to connections established via American Samoa.

### *Diverse age structures and migration-led population growth*

There is considerable diversity in the demographic profiles for the six PICTs and the age-sex structure for their aggregated population, shown in Figure 11, is heavily influenced by the distributions for Samoa's, and to a lesser extent Tonga's, population structures.[122] Samoa (203,160) accounted for 54% of the SPC's projected total population of 377,700 in 2024 with Tonga's population (98,780) accounting for a further 26%. The three Realm countries all have populations under 20,000 and two of them (Niue and Tokelau) have around 1,500 residents each. The SPC's projected population for 57,230 for American Samoa in 2024 is well above the UN's 43,500 and the latter is likely to be more reliable in this case.

[121] Kiribati's government has yet to confirm that it wants to be part of the Pacific Engagement Visa process.
[122] Demographic profiles for the Realm countries can be found in Friesen et al. (2023). 3-33. A review of characteristics of the contemporary and future populations of Tonga and Samoa, including some statistics on their populations in Aotearoa New Zealand, is in Vaioleti, L. et al. (2023a). 7-21.

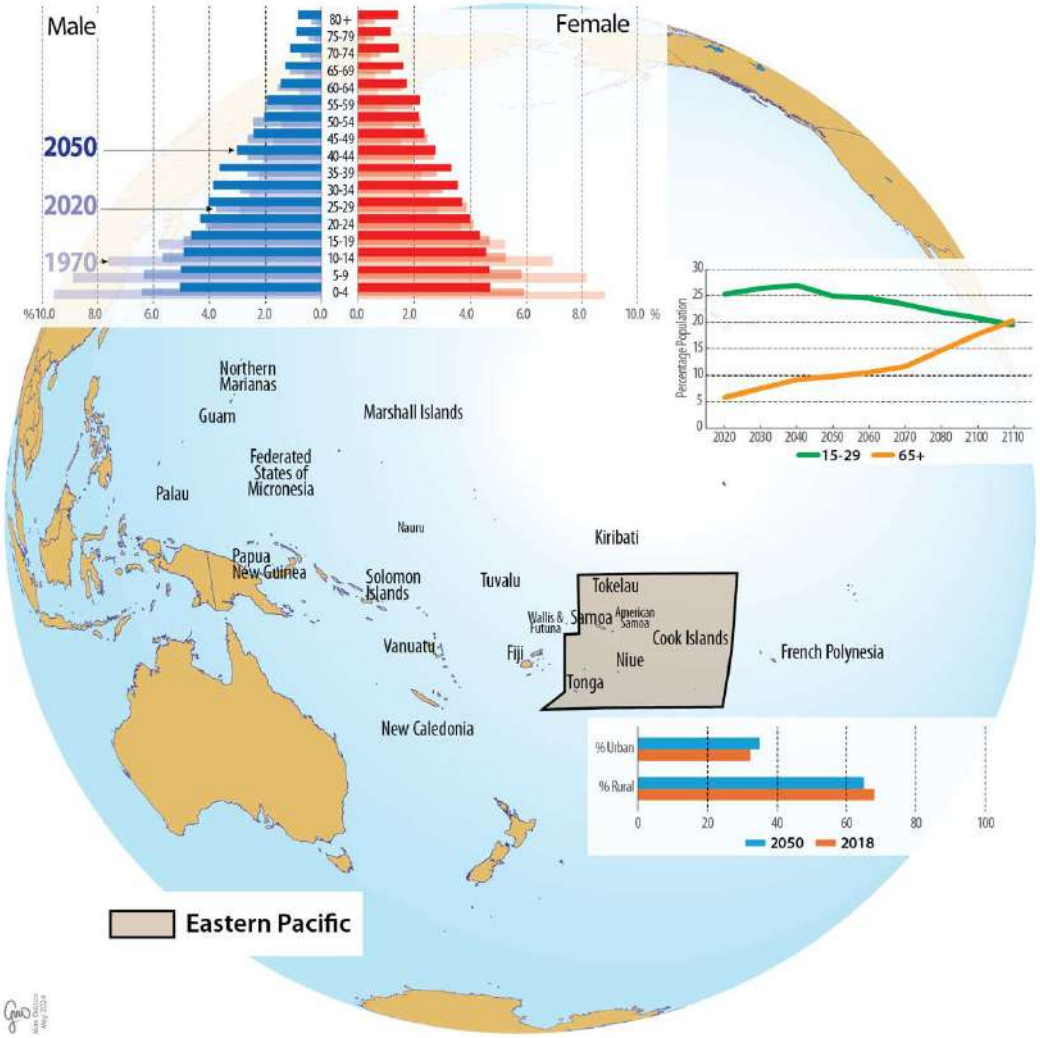


***Figure 11: Changes in population structure and rural-urban distribution, eastern Pacific cluster 1970-2100***

Two common features of the population structures for PICTs in this cluster are evidence of declining fertility in the narrowing bases of the pyramids between 1970 and 2020 (a trend that is projected to continue over the next 30 years) and increasing shares of the population in the older age groups (also see line graph in Figure 11). Migration to countries on the Pacific rim, especially New Zealand and the United States, has had a major impact on population growth through net losses of people in the working and reproductive age groups. The loss of young men and women to long-term work and residence overseas represents a transfer of their potential contribution to reproduction to the populations of their host countries. This has had a particularly significant impact on the population structures of the Realm countries, which all experienced major net losses in population during the 1960s and 1970s.

While the eastern Pacific cluster is projected to continue to experience population growth between 2020 and 2050, the overall increase will be small. Over the 30 years the eastern Pacific cluster's population is likely to increase by 23,000 or 6% to reach around 380,000 in 2050 according to SPC projections for Samoa, Tonga and the Realm countries and the UN's projection for American Samoa[123]. The UN's projections are more optimistic than the SPC's, especially for Samoa and Tonga, giving an overall increase of 120,000 or 23% to reach a population of just over 500,000 in 2050. The SPC's projections are likely to be more reliable in this case, especially for Samoa (231,400 in 2050 rather than the UN's 320,000) and Tonga (93,300 in 2050 rather than the UN's 131,000). Ongoing declines in fertility and the likelihood of accelerated net out-migration as a

[123] The UN's projection for American Samoa is discussed later in the report. It is based on much higher assumptions of net migration loss between 2022 and 2100 than the UN's projections for the other PICTs in the eastern Pacific.

response to climate change favour the more conservative estimates of population growth for these PICTs. In addition, Tonga has recently been included in Australia's PEV programme with an initial allocation of 150 balloted residence visas.[124]

Several reports address current and potential future mobility in Tonga and Samoa where climate change is one of the forces influencing internal or international migration.[125] Analysis of responses to two different surveys including a total of 360 Tongans and 346 Samoans within and outside the two countries, provides a wide range of information about general mobility "willingness", beliefs around future climate mobility, internal and overseas destination preferences, recent and planned direction of movement, and insights from those based overseas on the diaspora's unique contribution, influence and potential in a climate mobile future.[126] The visualisation sessions and scenario workshops subsequently conducted in the two countries defined and explored different futures for Tonga and Samoa under a range of hypothetical climate change scenarios. Insights gained from these inquiries are reviewed in later sections of this report.

### *Urbanisation of populations in the eastern Pacific*

Populations living in countries in the eastern Pacific cluster remain predominantly rural-resident. The bar graph in Figure 11 shows that around 65% of the cluster's total population in 2018 were living in communities classified as rural. The UN's projections of urbanisation suggest there will still be under 40% of this cluster's population living in local towns and cities in 2050 – a major difference with the countries in the central and northern Pacific clusters where over 70% of their populations are projected to be urban-resident by 2050 (Figures 9 and 12).

In the case of the eastern Pacific cluster, the percentages living in rural and urban areas within the different countries give a misleading indication of the level of urbanisation of their populations. The long-standing, albeit variable, access members of these populations have had to overseas destinations since the 1970s means that all the countries in the cluster have significant transnational populations. The overseas components of these transnational populations are heavily concentrated in towns and cities in Aotearoa New Zealand, Australia and the USA.

The research into regional population dynamics established that around 43% of the total population living in the islands and in countries on the Pacific rim that identified with Polynesian ethnic groups (1.57 million in 2021, excluding New Zealand Māori and Hawai'i Maoli), were estimated to be resident in the eastern Pacific.[127] Almost 60% of Polynesians were living in Aotearoa New Zealand, Australia and the USA. This compares with less than 2% of the total population that identified with Melanesian ethnic groups (11.47 million, including Fiji's indigenous i-Taukei population) living overseas in 2021.

When the overseas components of Pacific transnational populations are taken into consideration, it is clear that Polynesians from the eastern Pacific have a much higher level of urbanisation than assessments of population distribution within the island countries suggest. The strong connections between the island-based and overseas-based components of Pacific transnational populations have been one of the defining features of their social and economic transformation, especially since the 1970s.

[124] Howes (2024). 2. Samoan Government has not taken up an invitation to be part of this scheme at this stage. It is currently reviewing Samoan involvement in labour mobility schemes in Australia and New Zealand in the light of increasing shortages of labour to support industries in the domestic economy.
[125] See Vaioleti, L. et al.. (2023b, 2023c, 2023d), Vaioleti, T. et al. (2024).
[126] Vaioleti, L. et al. (2024).
[127] Bedford et al. (2023a). 71.

As the surveys of Tongans and Samoans living overseas[128] and the studies of the Pukapuka and Tokelau communities in Aotearoa New Zealand[129] suggest, a transnational rather than a national frame of reference is required when considering the impacts of climate change on populations in the eastern Pacific cluster. The implications of this approach for climate (im)mobility are explored in the wider context of intergenerational framings of population movement in the section on the Connected Pacific.

## The northern Pacific cluster

The five PICTs north of the equator comprise a long-established cluster with strong connections to the United States. The populations of Guam, the Federated States of Micronesia, the Marshall Islands, the Northern Mariana Islands and Palau have been profoundly affected by migration to and from the United States and this is reflected clearly in the age-sex pyramids for their combined population (around 400,000 in 2024 according to SPC and UN projections) (Figure 12). The large American military presence in the cluster, especially on Guam, means that the population structure is affected by in-migration from the "hub" as well as out-migration to the mainland United States.

There is also extensive in-migration of labour from countries in Asia to parts of this cluster to compensate for the net losses of the indigenous populations to the United States. The Northern Mariana Islands (manufacturing industries) and Palau (the tourism industry) have been particularly affected by a complex mix of flows of labour into and out of the country. This migration-led "churn" in the population has affected fertility rates as well as the shares in the working age and older population groups.

[128] Vaioleti, T. et al. (2024a).
[129] Underhill-Sem, Y., Newport, T. and Ng Shiu, R. (2024b) *Mobilities over time: Ancestral, historical, future*. Waipapa Taumata Rau, University of Auckland.

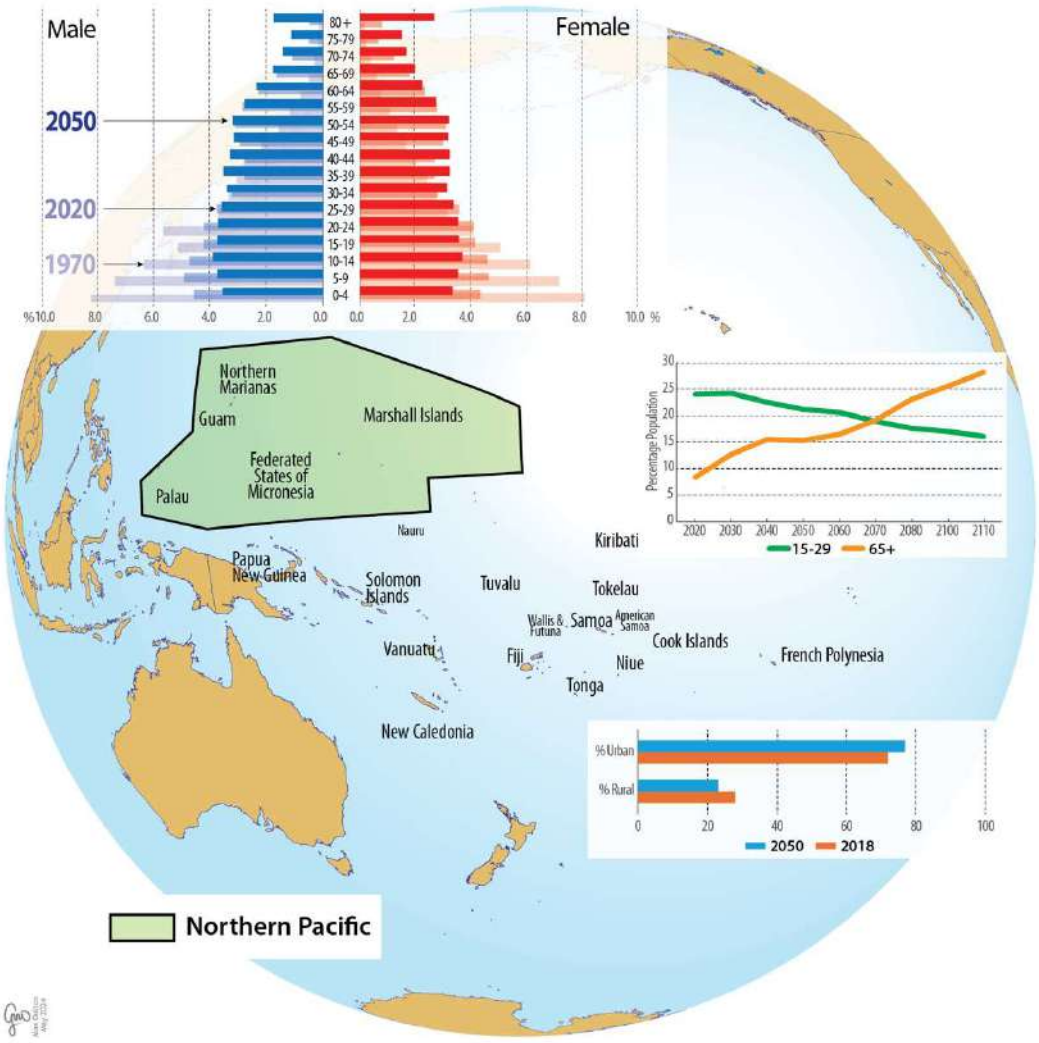


***Figure 12: Changes in population structure and rural-urban distribution, northern Pacific cluster 1970-2100***

### *Population structure*

The age-sex pyramids and line graph showing changes in the percentages of the 15-29 and 65+ populations in Figure 11 are very different from those shown in the maps for the western, central and eastern Pacific (Figures 9-11). As the assessment of population dynamics in the region shows, the PICTs in the northern Pacific have all experienced significant declines in fertility since the 1950s and all were expected to reach sub-replacement fertility before 2050.[130]

The much higher percentages in the older age groups than are found in the populations in the three clusters covered earlier also reflect lower infant mortality rates and higher life expectancies at birth in those parts of the cluster that have large immigrant populations especially Guam (US military personnel) and the Northern Mariana Islands (Filipino and other Asian migrants employed in manufacturing and service industries). This has contributed to the much higher percentages of men and women in the 80+ age group in the projected population structure for 2050 (Figure 12).

### *Population distribution*

Populations in the northern Pacific have much higher levels of urbanisation than those found in the clusters south of the equator (Figure 12). In 2018 only 28% of the northern Pacific's population was rural-resident

[130] Bedford, et al. (2023a). 28.

and by 2050 the UN expects this share to have dropped to 23%. Like the situation in the eastern Pacific, there are large overseas-resident Micronesian populations in the United States, and these are mainly concentrated in urban areas. That said, the share of the total population living in the cluster and overseas in 2021 that was in the northern Pacific (75%) is much higher than is the case in the eastern Pacific (43%) according to the University of Auckland team's analysis of the transnational component of Pacific populations.[131]

Part of the reason for the smaller shares of northern Pacific populations living in the United States is the cost of air travel. Traversing the long distances from countries in the northern cluster to the destinations in the United States costs much more than getting from countries in the eastern Pacific to Aotearoa New Zealand and Australia. Indeed, Gibson and Nero (2008) showed that it was cheaper to fly from Palau, Guam and the Northern Mariana Islands to Australia in the mid-2000s than it was to fly to North America.[132] In this context, it is interesting to note that the Australian Government has recently granted small residence visa quotas (50 each) to Palau and the Federated States of Micronesia, with an offer on the table for the Marshall Islands.[133] This is the first time a country on the southern Pacific rim has included countries in the northern Pacific cluster in an immigration policy that targets specific countries or regions.

Looking ahead, the populations in the northern Pacific are likely to continue to have a preference for residence overseas in the United States of America rather than in countries on the southern rim of the Pacific. There are also strong economic and historical ties between several of these countries and countries in northeast and southeast Asia. The one country in the northern Pacific that may develop stronger links with Aotearoa New Zealand in the future is the Marshall Islands, the group of atolls and reef islands to the north of Kiribati. There are cultural links between the I-Kiribati and other Micronesian peoples and the I-Kiribati transnational population in the United States owes its origins, in part to connections with the Marshall Islands. Aotearoa New Zealand's 2018 Census of Population and Dwellings recorded very small numbers of people born in the northern Pacific cluster. [134] There are no transnational populations from this part of the Pacific of any size in Australia or Aotearoa New Zealand at this stage.

## The French territories cluster

The three Pacific territories (French Polynesia, New Caledonia and Wallis and Futuna) have been grouped as a cluster because of their distinctive, ongoing, status as collectivities of France (Figure 13). Indigenous populations in these widely distributed island groups have French citizenship by right and, theoretically at least, can live in France if they choose to leave their island homes in the Pacific. It is very difficult to get data on the birthplaces of France's population and the UN database that has been used to provide data on Pacific-born populations living overseas does not contain data on people resident in France who were born in the three collectivities.

[131] Bedford, et al. (2023a). 68-75.
[132] Gibson, J. and Nero. K. (2008) Why don't Pacific economies grow faster? in A. Bisley (ed.) *Pacific interactions: Pasifika in New Zealand – New Zealand in Pasifika.* Wellington: Institute of Policy Studies, pp. 191-244
[133] Howes (2024). 2.
[134] According to unpublished data provided by Stats NZ, the following populations born in countries in the northern Pacific cluster were resident in New Zealand in 2018: Guam 51, Marshall Islands 21, Federated Dtates of Micronesia 18, Northern Mariana Islands 24, Palau 12.

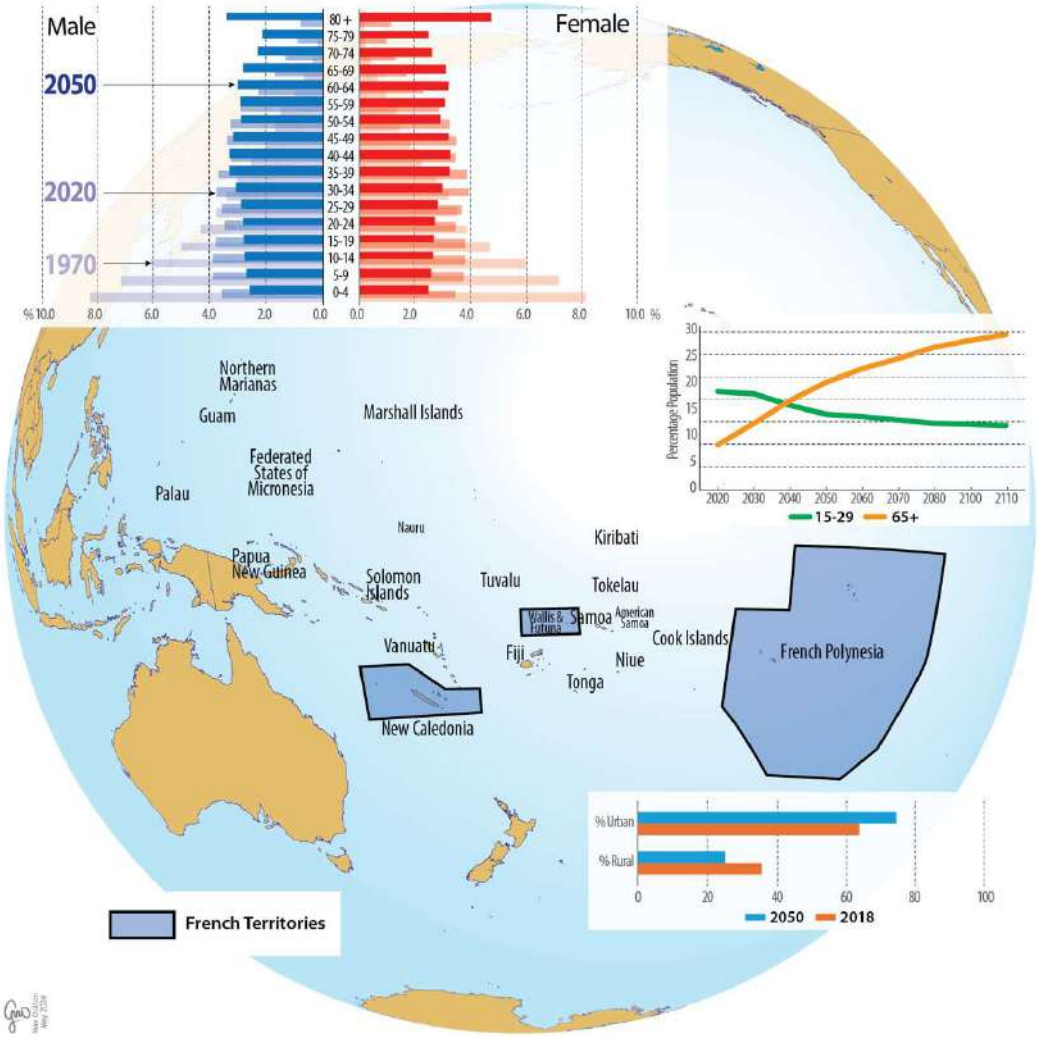


***Figure 13: Changes in population structure and rural-urban distribution, French territories cluster 1970-2100***

### *Population structure and growth*

The two large populations in the cluster in 2024 (French Polynesia 282,700 and New Caledonia 276,700, SPC projections) have sizeable non-indigenous populations, mainly from France, which have lower fertility than the indigenous population and much older age structures. The more youthful, small population of Polynesians in Wallis and Futuna (11,200 in 2024) has little impact on the age-sex pyramids shown in Figure 13 for the combined population of the cluster.

The structure for the total population of this cluster is quite different from that for the other clusters, with much higher shares in the 65+ age group. The line graph showing changes in the percentages of the population aged 15-29 and 65+ has the percentage for the latter exceeding the former before 2040 – well in advance of any other cluster. In the cases of the western, central and eastern Pacific clusters, UN projections for these two age groups does not result in the two lines meeting until well after 2050 and, in the case of the western Pacific cluster, not until after 2100.

Population growth between 2020 and 2050 will be slow in the French territories cluster according to SPC and UN projections. The total population of 600,000 in 2020 is projected to increase by 112,000 (19%) according to the UN's medium variant projection. This compares with percentage increases over the 30 years of 23% in the central Pacific, 30% in the eastern Pacific and 59% in the western Pacific. Only the northern Pacific cluster is projected to have a lower percentage increase in population between 2020 and 2050 (15%). In the

French territories the youthful working age population aged 15-29 is projected to decline by just under 10% during this period while the 65+ population increases by 87%.

### *Population distribution and intra-Pacific migration*

The percentage of the population living in urban areas in the French territories ranged from around 71% in New Caledonia to 0% in Wallis and Futuna in 2018.[135] In French Polynesia 62% were urban-resident. There has been considerable migration between the French territories and there are sizeable communities of Polynesians from Wallis and Futuna in New Caledonia and French Polynesia. In the absence of data on numbers from the cluster living in France, the overseas populations born in this cluster are heavily concentrated within the Pacific in the other French collectivities.

There were small populations born in New Caledonia (310), French Polynesia (470) and Wallis and Futuna (10) in Aotearoa New Zealand at the time of the 2018 Census of population and Dwellings. These are the smallest Pacific-born populations from countries in Melanesia and Polynesia in Aotearoa New Zealand. While the three territories remain colonies of France, it is unlikely that their locally-born populations living in countries on the Pacific rim will grow rapidly, although climate change in the region may lead to more Polynesians especially seeking access to work and residence in Aotearoa New Zealand. There are strong ancestral and contemporary connections between island groups in French Polynesia and the Cook Islands, and it was Polynesian navigators from this part of the eastern Pacific that brought the ancestors of Aotearoa's indigenous Māori population to this country. A Tahitian navigator, Tupaia, also played a major role is helping Captain Cook "discover" Aotearoa in 1769.[136]

## A diverse but connected Pacific

An outcome from research into population dynamics at the sub-regional level between 1950 and 2100 is the suggested grouping of PICTs into five clusters based on aspects of their contemporary and historical demographics and colonial and post-colonial connections. It is argued that these clusters provide a more relevant sub-regional grouping of countries for the analysis of the impacts of climate change on mobility than the conventional three regions of Melanesia, Micronesia and Polynesia.

At the core of the proposed five groups in this section is the cluster and hub approach to the regional architecture of Pacific mobility developed by Burson and Bedford (2013) and used as a framework for building the case for a regional harmonisation of approaches to humanitarian entry and stay in the region (Burson et al., 2021). The cluster and hub approach ensures that the transnational dimension of Pacific populations is always acknowledged in the analysis – something which all of the research teams have given careful attention to in their studies of families, communities, populations of particular countries and the overseas components of transnational populations.

Recognition of diversity in contemporary and future trajectories for population change at the regional and national levels in the research is accompanied by very clear acknowledgement of the connections that people in the islands have with many kin and others in different parts of their country of residence as well as in other Pacific countries and beyond, especially on the Pacific rim. It is the nature of these connections, and their significance in the context of lives that are being increasingly impacted by climate change, that this synthesis of findings from research carried out by the three teams now turns.

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[135] Campbell (2019). 3.

[136] Salmond, A. (2012) Visitors: Tupaia, the navigator priest, pp. 57-76 in S. Mallon et al. *Tangata o le Moana. New Zealand and the People of the Pacific.* Wellington: Te Papa Press.

# THE CONNECTED PACIFIC

This section explores the concept of relationality to describe research participants' lived experiences of responding to climate change and relationships between peoples, places, and traditions. Examples are used to illustrate that the preservation of cultural heritage, respect for traditional decision-making processes, and support for community cohesion are essential in supporting the resilience of Pacific peoples against the backdrop of increasing climate change. Across the Pacific region, "land and identity are inextricably linked."[137]

In the Pacific region, the connection between people and place can be understood as strong cultural, traditional and spiritual bonds that shape people's and communities' identities and social structures. The connection between people and place is deeply rooted, with ancestral land holding profound significance. As a collective body of knowledge, the research and reports illustrate that the relationship between people and place, is crucial for addressing the challenges posed by climate change and supporting future climate-induced mobility. The close relationship between Pacific communities, whether living in the Pacific or abroad, to their land, is presented across the research as an additional layer of complexity to their response to climate change. Furthermore, the research demonstrates that community cohesion[138] and support systems further reinforce ties to place, providing networks of mutual aid and solidarity. Even in the face of climate-related hazards and disruptions, communities remain deeply connected to their traditional lands, drawing strength from ancestral stories and spiritual beliefs.

The concept of 'connectedness' was one of the key framings for Mana Pacific Consulting which emerged from their synthesis of the family studies.[139] Within a family study from East Malatia (Solomon Islands), is a vivid example of the strong connection between people and place. The people-place connection is sustained via traditional knowledge, stories, and skills being passed down from elders to younger generations to ensure the preservation of cultural heritage and foster a strong sense of belonging[140]. According to this family study, the Gwailao tribe function as a signpost, just as the other tribes that makeup the Gualala indigenous peoples do also. The voices of the youth and elders resonate the importance of taking into consideration how we negotiate the politics of change as proportional to our material and spiritual environments.[141]

The community studies emphasise that ancestral lands hold cultural significance imbued with spiritual ties that are central to the continuity of important rituals and practices. Ancestral lands in the Pacific are represented in this research as more than physical spaces; they are also the final resting place for family members[142], and a sacred site for burial rituals, such as the burial of umbilical cords[143] for children and grandchildren. For example, in the Vaimaanga community case study from the Cook Islands, spiritual ties with the environment are noted as being maintained through Akapapaanaga relationships and the research highlights an intergenerational and sacred connection to ancestral land. [144] In another community case study, the significance of traditional practices connecting people to place was also highlighted in Pukapuka[145], where the research teams noted that ecological knowledge and communal management of resources is

[137] Vaioleti, L. et al. (2023d).
[138] Newport C. et al. (2024g).
[139] Mafile'o, T., Alofa, P., Kauongo, T., Saguba, L., Steven, H., Tulano, T., Toloa, L, Nailasikau Halauitui, S. and Peneta Hauma, T. (2024a) *Pacific climate mobility multigenerational family story study: A synthesis*. Mana Pacific Consultants Ltd.
[140] Sanga, F. (2024).
[141] Ibid.
[142] Underhill-Sem, Y., Newport, C., Ng Shiu, R., Galokale, K. & Futaiasi, D. (2024f). *Aruligo: A community case study from The Solomon Islands*. Waipapa Taumata Rau, University of Auckland.
[143] Ng Shiu, R. et al. (2024e).
[144] Newport, C., Ng Shiu, R., Underhill-Sem, Y., & Damm, L.M., & Moeka'a R. (2024e). Vaima'anga: A *community case study from the Cook Islands*. Waipapa Taumata Rau, University of Auckland.
[145] Newport, C., Ng Shiu, R., Underhill-Sem, Y., Damm, L. M., & Wright-Koteka, E. (2024d). *Pukapuka – Te Ulu o Te Watu: A community case study from the Cook Islands*. Waipapa Taumata Rau, University of Auckland.

passed down through the generations, illustrating a commitment to preserving cultural traditions and peoples' connection between their identity and the land. [146]

The *Moving Futures* report also highlights the profound connection between land and identity. This notes that elderly individuals in Tonga face unique barriers to mobility due to their deep ties to their land of origin; thus, they find it difficult to leave and endure the emotional and spiritual toll of separation from their land and history.[147] Similarly, in Samoa, older participants reflected on the tight bonds between land and identity, and in both contexts, decisions to move either internally or overseas were made more challenging if ancestors were buried on their land.[148]

## People, place and traditional values and practices

There are multiple dimensions to the connection between people and place and the centrality of cultural heritage and traditional values and practices in sustaining these connections. Across the research, traditional values and practices support and strengthen attachments to place within Pacific communities. This is evidenced by the stories of intergenerational sharing of cultural knowledge and values across the research.

For example, the story of a family originally from Maiana Island in Kiribati documents a concerted effort to teach genealogy at family reunions via a quiz, remarking that "stories are not for entertainment only, but for empowering youth to learn values and skills passed down from our forefathers."[149]

Beyond its physical boundaries, the land and ocean embodies a profound link to heritage, tradition, and community, strengthening the legacy of cultural identities, values, and traditions. The research with the Tongan and Samoan diaspora[150] confirms this emotional and spiritual connection to people and place. This is expressed as commitment to 'ofa (love in Tongan) and alofa (love in Samoan) of both the people and the land in their ancestral lands, despite being physically distanced from it. In the *Moving Futures* report,[151] the connection between cultural heritage and land in Tonga and Samoa is highlighted, emphasising how traditional practices strengthen attachments to place. According to these researchers, in both Tonga and Samoa, the land is not just a place of residence but a repository of heritage, culture, and ancestral resting places and the potential dislocation from their land represents not only physical distance, but also dislocation from their ancestors and their traditional practices.

The process of participants in Samoa and Tonga developing and exploring four possible futures set in the year in 2050 elucidates the significance of traditional practices and traditional values now, and in the future. Among the Samoan participants, it was identified that one positive action that could be undertaken now to support the future would be to "explore ways to revitalise interest in, and the practice of Samoan values to help restore the family unit and build social resilience to upcoming change/s."[152] The participants in the Tongan future scenario workshops also highlighted the centrality of traditional values. In one workshop the participants imagined that:

> after years of social and cultural deterioration, by 2025 Tonga's leadership from (government to Church and other community leaders) have come together to initiate a significant programme of work to reinvigorate Tonga's traditional values. Values like faka'apa'apa'aki (mutual or two-way respect),

[146] Other examples from the University of Auckland were noted in Vaiea and Bareho where communities collaborate to adapt and mitigate challenges together.
[147] Vaioleti, L. et al. (2023d). 6.
[148] Vaioleti, L. et al. (2023d). 8.
[149] Alofa, P. (2024). 7.
[150] Vaioleti, T. et al. (2024a).
[151] Vaioleti, L. et al. (2023d).
[152] Vaioleti, L. et al. (2023d). 37.

feveitoka'iaki (fulfilling one's or one's group's unique obligations), tauhi vaha'a (the outcome of fulfilling one's unique obligations and living one's values), loloto (humility and generosity) and vahevahe mai (sharing) are revisited and adapted for application in their new reality.[153]

Across the research, there are many examples of how stories are shared across generations to reinforce the intricate web of familial connections to the land. These narratives serve as more than accounts of history; they serve to strengthen identity and belonging and create a strong connection between people and place. Beyond its physical boundaries, the land and ocean embody a profound link to heritage, tradition, and communal unity, perpetuating the enduring legacy of cultural identity and values.

Within the community case studies, research participants in Managalas (Papua New Guinea), Vaiea (Nuie), and Niutao (Tuvalu) reflected on the how the bond between genealogical lineages, ancestral connections, and the land are deeply entrenched within the cultural and spiritual fabric of these communities. Research with transnational populations from the Cook Islands[154] and Tuvalu[155] further substantiate the relationships between people's connection to place as important to the preservation of community cohesion.

These practices demonstrate resilience and adaptability, showcasing how Pacific communities leverage their cultural heritage to navigate contemporary challenges. Within the community case studies, traditional life and traditional practices are also illustrated as contributing to resilience. For example, in Vaiea, Niue,[156] and Bareho, Solomon Islands,[157] communities collaborate to adapt and mitigate challenges together. Moreover, in Pukapuka, Cook Islands,[158] the passing down of ecological knowledge and communal management of resources reflects a commitment to preserving cultural traditions and identity. Furthermore, the Vaiea[159], and Niutao[160] community studies illustrate how practices such as weaving and traditional crafts contribute to economic stability and livelihoods within Pacific communities and also ensure that cultural traditions are passed down through generations.

## Faith and spirituality

In the Pacific, faith and spirituality also play a role in connecting people to place through scared sites, traditional practices, rituals, community and church activities, environmental stewardship. The blending of indigenous traditions with Christian faith are part of everyday life in the Pacific and reinforce cultural identity, community cohesion and connection to place.

The research highlights the integral role of faith and spirituality as pillars of resilience in Pacific communities. Research participants in Samoa and Tonga expressed how mobility influences their spiritual connection with the land, ancestors, and sea. Moreover, the report on these countries emphasises the significance of the Christian faith and the church in maintaining peace and wellbeing within these communities, illustrating how Christian values intertwine with indigenous beliefs.

The Christian religion is dominant in Tonga and church participation and fulfilling one's church duties is central to life there. Heads of churches are considered powerful, and in the public sphere, they can be more

[153] Vaioleti, L. et al. (2023d). 17.
[154] Newport, C. et al. (2024d).
[155] Newport, C. et al. (2024f).
[156] Ibid.
[157] Underhill-Sem, Y., Newport, C., Ng Shiu, R., & Galokale, K. (2024g). *Bareho Village, Nono Lagoon: A community case study in the Western Province, The Solomon Islands*. Waipapa Taumata Rau, University of Auckland.)
[158] Newport, C. et al. (2024d).
[159] Newport, C. et al. (2024f).
[160] Ng Shiu, R., Newport, C., Underhill-Sem, Y., Burnett, R., Amosa-Baniani, C. & Nia, B. (2024g). *Niutao: A community case study from Tuvalu*. Waipapa Taumata Rau, University of Auckland.

influential than some of the nobles (estate holders). Further, their geographical reach is extending every year as Tongans leave for overseas destinations at pace ('Epeli Hau'ofa, talanoa, May, 2004). Religion provides a second home (fale-'alua) and a support platform for those within Tonga, including in terms of disaster response and recovery, and those overseas, including to help accommodate settlers and to connect people in with income and work opportunities.[161]

The community case studies and multigenerational family studies further illustrate the intertwining of faith and resilience in Pacific communities, evidencing how faith and spirituality provide strength during climate and environmental challenges. For example, for families in Papua New Guinea[162] and Kiribati,[163] spiritual practices such as prayer, attending church, storytelling, and traditional ceremonies serve as sources of emotional and psychological support, reinforcing community bonds and cultural identity. These practices provide a sense of purpose and strength, enabling communities to cope with challenges posed by climate change and other adversities.

So, also, in communities in Vaimaanga, Cook Islands, and Ambu, Solomon Islands. These studies evidence how individuals draw upon their unwavering trust in God during difficult times, considering it an essential aspect of their resilience. Moreover, in Niutao and Matupit, differing belief systems coexist, with some relying on scientific research while others place their faith in divine protection, showcasing the diverse ways in which faith and spirituality intersect with resilience strategies. [164]

**In short, faith and spirituality are core elements of the everyday life, everyday action which characterises resilience in the Pacific and must be seen as such.**

## Extended families and intergenerational mobility

The various community and family-based studies all contain reference to the importance of extended families in the everyday lives of the region's diverse peoples, including their ways of adjusting to changes in their residential and work environments. The research and reports all place very heavy emphasis on *relationships* within families that often extend beyond national boundaries, when assessing Pacific strategies for navigating challenging times in their lives, including the multifaceted stresses linked with coping with climate change.

Reflecting on how transnationally distributed family relationships are simultaneously differentially and commonly anchored in 'place', the University of Auckland observe:

> transnational communities can be distinguished as **being *of* place** in relation to their homeland communities as **staying *in* place** (Telban, 2019). As Indigenous communities this can be distinguished further as **being *from* place**. While they are not physically located with their origin communities, their sense of **belonging to place** and community exists as an intangible interconnected dimension of their ancestral spiritual ties to the physical and human dimension of their environment and generations.[165]

Reflecting on intergenerational mobility, they point out that,

[161] Vaioleti, L. et al. (2024).
[162] Steven, H. (2024).
[163] Alofa, P. (2024).
[164] Ng Shiu, R. Underhill-Sem, Y. and Newport, C. (2024*). Perspectives from communities across the Pacific: Navigating vulnerability, continuing resilience*. Waipapa Taumata Rau, University of Auckland.
[165]Newport**,** C., Underhill-Sem, Y., & Ng Shiu, R. (2024a). *Relationships - Shifting climate (im)mobility*. Waipapa Taumata Rau, University of Auckland.

> moving around the Pacific is a long-standing intergenerational process infused with relationships born of intimate connections to people and place. This includes opportunities to advance education or employment, changing circumstances and environmental stresses. Often this leads to establishing a household in another community in another country; sometimes people are quick to return home.[166]

They highlight the importance of understanding climate mobility through an intergenerational lens. They also emphasise that moving around the Pacific is a long-standing process deeply rooted in intimate relationships with people and places. This mobility provides opportunities to advance education, secure employment, and adapt to changing circumstances and environmental stresses. Often, it involves establishing households in new communities or countries, although some individuals quickly return home. Recognising this intergenerational mobility is crucial for climate-related mobility, as it underscores the importance of relational ties and the need for policies that support sustainable and culturally sensitive mobility options in the face of climate change.

When it comes to accessing opportunities to cope with climate-related stress in the Pacific, the research in both Tonga and Samoa has revealed a strong belief in the very different options available to families with close family members, including spouses, in overseas countries and those with no overseas-based family. Families with members abroad can access support for voluntary mobility options, providing them with resources and alternatives to cope with climate stress. In contrast, island-based families without overseas connections lack these opportunities, highlighting a possible gap in support systems that needs addressing to ensure equitable resilience strategies for all affected communities.[167]

This framing of mobility in terms of generations rather than arbitrary time periods (short-term, long-term, temporary, permanent) or with reference to spatial contexts or binaries (local mobility, rural-urban, internal, international, origin-destination) is at the heart of the research into population movement. Indeed, the title to Mana Pacific Consultants' synthesis of the ten detailed family stories of mobility conducted across six countries refers to "multigenerational family stories".[168]

**An intergenerational or multigenerational framework for examining climate-related (im)mobility in the region facilitates incorporation of the variable time-scales; i.e., the time over which population processes and climate processes play out, intersect and have impact on communities, families and households.**

The wide range of grounded family and community case studies the teams have provided cover a range of settlement types in Pacific countries with different demographic histories and different experiences of, and vulnerabilities to, climate change. Together they make a major original contribution to our understanding of voluntary, and in some cases, involuntary migration in the region.

## Everyday life, everyday activity and resilience

As Dr Sione Nailasikau Halatuituia, writing on the experiences of the kāinga Mango, Tonga for Mana Pacific Consulting, eloquently captures this fundamental truth:

> *even though they do not specifically say or directly fault climate change, their stories of natural and environmental changes are like a deposition of climate change.*[169]

[166] Underhill-Sem, Y, et al. (2024b). 3.
[167] Vaioleti, L. et al. (2023d).
[168] Mafile'o, T et al. (2024a).
[169] Nailasikau Halauitui, D. (2024a). 6.

That Pacific people have for generations used indigenous knowledge and traditional practices to achieve what has come to be described and viewed through a non-indigenous lens as 'resilience' is reflected in the following observation by a participant in that study:

> *Tupu hake pe i Fakakai feunga moe to Matangi he 61 mahalo kii tau 5 ai anga e feliliuaki he to koe matangi naamau tu'u pe mei he mui kolo koe sio ki he muikolo koe 'auha koe, ka naam au nofo pe homau kii fale tonga nae tukuhifo pe kii fale ka mau hao ki ai. Pea koe anga ia feliuliuaki mau hau ko eni ki Mango, lahi ngaahi Matangi nae mau ka naa mau hao pe homau kii api. Pea koe fiha e sunami hoko 'i motu ko 'emau lele pe he 'oku ai pe mo'unga 'i Mango. Ko ene talaange pe oku mau osi katoa ki ai.*
>
> *[I was 5 when I experienced the 1961 cyclone devastation in Fakakai. The whole Fakakai settlement was destroyed. We put down the roof of our Tongan house and took shelter in it. We have experienced various cyclones and sea surges here in Mango. We always run to the hill in Mango. When we get the warning, we go to the hill]. (Mother)*

This observation – one of many across the research as a whole – reflects the reality that, **in their everyday lives, Pacific peoples residing in the many thousands of villages scattered across the many hundreds of islands in region, maintain relationships to both place and to people – past present and future – and take communal and community-level action which reduces the impacts of environmental hazards of all kinds, including those linked to climate change.**

Strong family and community ties provide essential support systems in Pacific communities, particularly during times of crisis such as natural disasters or economic instability. Talanoa workshops in Tonga revealed that through a Tongan lens, family was a key form of resilience (both as a motivator and as an enabler to channel or broaden one's options). As one participant noted "a person is born into a family, the boundaries are international."[170] In Tonga, kāinga (extended family) and the role of the 'ulumotu'a (family head) are central to social resilience, and families are seen as a primary support network, providing emotional and practical support during times of hardship.

Nevertheless, number of participants in the future scenarios session suggested financial and other pressures associated with worsening climate impacts may lead to a narrowing of perceptions of the family unit from extended family to immediate family leading, potentially, to reduced openness of extended family to share land, offer accommodation to those needing to relocate, and affect remittances from overseas to help fund adaptation efforts of extended family members.[171]

The study of Ambu[172] illustrates how strong relationships and cooperation between different tribes support economic resilience and sustainability within local communities. This sentiment is captured by one participant from Benabena[173] in Papua New Guinea:

> *Where we are now, we have called it our homeland, so we stay here. It is going to be bad if we leave our home and go somewhere else. We can't leave our gardens, our houses, our things and go elsewhere. Our house will smell bad and stale. It is going to be bad. It is better to live in our own village. That is why I stay put here.*

[170] Vaioleti, L. et al. (2024).
[171] Idem. 51.
[172] Underhill, Y. et al. (2024e).
[173] Steven, H. (2024).

Mana Pacific Consulting make the point that connection between current, past and future family/kin, as expressed through storytelling, are a facet of everyday life and this a key driver of 'resilience' in that "stories of survival, hard work and resilience of past generations serve as inspiration and guidance for dealing with current challenges."[174] A member of the Nagamito people in Papua New Guinea reflected,

> *Ol papa mama save tokim mipla olsem, bifo tumbuna blo ol stap ay, ol save wok lo stick. Ol mekim bikpla, bikpla garden. Displa taim spade ino kam yet. Bifo taim, wokmak blo wanpla man em kain olsem wokman blo tupla man lo taim blo mipla nau.....Lo ol lain bifo, gardening ya em bikpla samting. Man igatim bikpla garden em leader lo hauslain ya. Man igatim bikpla garden na planti garden ya, em leader. Ol save wok olsem bikos em ol lukim disla em wanpla profession blo ol.*
>
> *[Our parents tell us that their ancestors used to work with digging stick. They made huge gardens. During those days, they never had spades. The amount of work (in the garden) that was done by one person in those days is equal to the amount of work that two people do today. ....Gardening was an important part of our ancestors. A person(man) who had a huge garden is a leader in the village. A person (man) who has a huge and plenty garden is a leader. Our ancestors dug bigger and plenty of gardens because they regarded gardening as their profession.] (Saftty Auso, 2023)*[175]

## Connected, collective, and communal decision-making

The research has revealed that (im)mobility-related decision-making involves many actors, reflects wider traditional social and governance structures, and occurs at different levels, ranging from the individual to the family, village and government. Decision-making is grounded in relationships at the household, family/ community/village levels and in relationships with key external actors, such as the church and the government. In some contexts, relationships with host communities also influence decision-making.

Summarising their ten intergenerational family studies, Mana Pacific Consulting emphasises the "collective and communal ways of being" as a core element of everyday life which enhances resilience. Their family studies demonstrate how such collectivism is deeply rooted indigenous Pacific cultures and expressed through the sharing of crops, fish and housing among family. To highlight the point, the family study of the Kāinga Nukunukumotu, in Tonga highlight the words of a member:

> *Kei fai pe me'a he taimi koee fekau'aki mo e ngaahi naunau 'o tahi...kāinga he motu ni; ikai fai ha fesiosiofaki.... kei fevahevahe'aki pe, koloa pe ke tatau pe tama ko e emo e tama ko ee*
>
> [We still do what our people did in the olden days regarding the ocean, as a kāinga there is no selfishness, we share equally][176]

These structural features of decision-making in the Pacific in the context of disasters and climate change feature in the research in relation to both Samoa and Tonga. At the village level in Samoa, the team note many participants pointed to the Sa'o (title-holding Matai) as the final decision-maker in village-level matters, including in mobility decisions. Others reportedly involved in village-level decision-making processes include Tagata Matutua/Matua Tausi (elders) of the aiga, parents and family overseas. Talanoa with a Paramount Chief in Samata-i-Tai, Savai'i revealed monthly village meetings take place where speeches are made

[174] Mafile'o, T., et al. (2024a). 24.
[175] Cited in Steven, H., (2024).10.
[176] Nailasikau Halauitui, D. (2024b).11.

regarding keeping the peace, and in which they 'talk about the future'. Every January, a plan is made for the year for the village, including setting expectations around land use, production expectations.[177]

One research participant suggested some sub-national variation in the strength and importance of traditional village structures and processes, including decision-making. This participant reflected that this may now be stronger in Savai'i compared with Upolu, due to overseas or western influences in Upolu more so than Savai'i.[178]

In the communities in the seven countries where the University of Auckland research team conducted fieldwork, there were formal committees responsible for dealing with significant community concerns and committed to ensuring community wellbeing. These "were primarily consultative and mostly comprised elders, church leaders, traditional leaders and where they existed, representatives of government" [179] They note that one community mentioned a series of community meetings following a significant flooding event, in which families were encouraged to relocate to government land further inland. They report that, ultimately, the final decision rested with the families, with some stating that the relocation site was "was too far away from 'home' and from the sea." Those who relocated still returned to visit and were happy to have moved.

Different decision-making processes may exist at the community-level within the same country. In Pukapuka, for example, moving off the island entirely because of concerns about climate change has featured at the community-level. As one interviewee pointed out:

> *Some years back, with the previous Council, we spoke about where we could possibly move to. Maybe to our other higher islands, like Rarotonga, Ngaputoru [southern Island grouping of Atiu, Mauke, Mitiaro and Takutea] or Mangaia, where it is higher ground. This was just a bit of brainstorming just in case the sea level rises and our land will be covered by the sea, we will request to Rarotonga, Ngaputoru or Mangaia to take us. At that time, we didn't think of New Zealand, but I think New Zealand would be better for us, our people are there, and everything is there.*[180]

This case study describes a 'unique' collective decision-making approach where village and church authorities play important roles in planning and implementing projects.

However, echoing the research in Samoa and Tonga about the need to be attuned to sub-national, island-specific nuances regarding the strength of traditional decision-making structures, one interviewee on Pukapuka indicated that the degree to which the Aronga Mana (customary leaders group) influences what happens on Pukapuka might be unusual. This is because on other islands the mana of the Aronga has been assumed by the Member of Parliament or the Island Council.[181]

Other important features of decision-making are noted by the research.

First, **although influenced by community-level discussion, final mobility-related decision-making tends to sit at the family or household level. At this level, decision-making in the context of climate-change and disaster-related (im)mobility is closely tied to land tenure and governance systems**.[182] It is to be noted, however, that household-level decision-making will not always be determinative of (im)mobility in this context. As the research into the relocations which occurred after the 2022 volcanic eruption in Tonga,

[177] Vaioleti, L. et al. (2024).
[178] Idem. 88.
[179] Underhill-Sem, Y. et al. (2024a). 7.
[180] Newport, C. et al. (2024d).11.
[181] Ibid.
[182] This is addressed in greater detail in the section 'The Driver'.

establishes, the confluence of the impact of hazard on populations within an exposed settlement and the particular land tenure and governance arrangements in place may mean that mobility-related decision-making is taken out of family hands.

Second, **that decision-making, while gendered, does not mean that women do not influence decisions at the village- and household-level.** The University of Auckland's report '*Community-level decision making: Dealing with Mobility*' note that women were on the village committees, albeit as representatives of their gender group.[183] Describing their role in aiga-level decision-making processes, participants in the women's' workshop in Lalomanu in Samoa shared with the University of Waikato that their role is to provide advice on the benefits of a given decision; to openly discuss all aspects of the decision, including the implications; to make sure a decision is fair for all family members; to support the decision (once made); and to prepare the family (and/or the village) for what is decided.[184]

Finally, and importantly, **the research highlights that the perspectives of persons of authority at the village level is nuanced and highly attuned to the trade-offs which shape household-level decisions about staying in place or moving**. This is demonstrated by talanoa in Samoa:

> *I encourage people not to leave here – we are higher and safer here than other places. This land and its position is a gift from God… Apia is one of the most flood prone places in Samoa.* (Paramount Chief, Savai'i)

> *When I preach I say to stay here. I say, if you stay in Samoa you boss yourself. You won't miss your parents. You go to New Zealand to work? The palagi will boss you… it is ok if single people go overseas, get educated. I say 'don't forget your kainga when you get something in your hand'… people don't really come to consult me on decisions to join the RSE anymore. It's all political now.* (Reverend, Savai'i) [185]

## Decision-making and staying in place/immobility

The research in Tonga highlights that **both voluntary and involuntary factors may coexist as influencing a household-level decision to remain in place.** Pa'atangata, a settlement on a narrow sand spit in eastern Nuku'alofa on the outskirts of Tongatapu, is particularly exposed to cyclonic storm surges and was impacted by the post-eruption tsunami in 2022. Many of those settled in this area are largely relocated from other island groups in Tonga. The research there established that, while lack of financial capital was highlighted by many as influencing why they remained in place despite the risk, obligations to family also featured as a factor. As one research participant felt compelled to explain,

> *Forgive me, I feel I need to explain my responses. Though I've said I have not moved and do not plan to move, it is because I cannot move, not because I don't realise the risk of living [in Pa'atangata]. I do not have the [financial] means to move, but I am also the eldest in the family. I need to stay to look after my parents, as well as my younger siblings who are not married.* (Research participant, Pa'atangata)[186]

This sense of obligation may be particularly strong in Tonga. The University of Waikato observe "one's fatongia – their obligation and fulfilling one's role (to the family, to church even obligations to the land itself), is a deep-set and critical driver of behaviour for Tongans. Obligation came up frequently in discussions around

[183] Underhill-Sem, Y. et al. (2024a).
[184] Vaioleti, L. et al. (2024). 89.
[185] Idem, 87-88.
[186] Vaioleti, L. et al. (2024). Case Study *Pa'atangata*.

mobility."[187] Obligation to land derives from its role in nurturing the individual, the family and ancestors. Research in Samoa revealed cases of children remaining in hazard-exposed family land in order to remain close and care for their family (e.g., parents) buried in that land.[188]

**This is significant as the confluence of obligation and lack of financial capital will to be common at the household level across the Pacific**.

Many research participants also reflected on Samoa being where they preferred to remain, their attachment to place and being in Samoa were seen by them as contributing to their sense of peace and wellbeing. As one research participant from Savaii said,

> *No matter what, we will stay here. We will find ways to make our houses stronger to withstand the changes. This is where I grew up, its where my roots are. This is where I belong .*[189]

This element of the research also generates a more nuanced understanding of **immobility at the international scale, with many research participants reflecting on their choice not to move abroad because of the sense of peace and wellbeing they have, compared to the stress, pressures and cost associated with moving abroad to New Zealand or elsewhere**. This emerged in the family studies of Mana Pacific Consulting. For example, a member of the Tumua Tafea family of Nanumaga, Tuvalu reflected:

> *Ki te aku loa, toku mafaufau loa pela, tino nei la fia move la ki tua mo Nanumaga… pela mo ... mafulifuliga o 'tau o aho… aku e fia noho loa iluga i te fenua nei… ona loa ko te filemu ... e tonu e uke a mea pela, mea fai… kae ko koe loa, ko te filemu… pela la mo fenua kola, e tonu… kafai koe e mafi i te galue, koe e ola ki te sene…e uke hoki a fakalavelave tupu e haa ke iloa pela…*
>
> [To me personally, most people wanted to move out of Nanumaga… like ... (because) of the threats of climate change… but I wanted to stay here on the island… only because of 'filemu' (peace)… of course, we have many contributions to the community… but it is the 'filemu' (that makes me wanted to stay)… unlike those bigger countries… if you are strong in working, you will survive as you will need money (to survive) … there are also many other problems that you will never know…][190]

A common sentiment emerged in interviews in Tonga where "many shared feelings of peacefulness in Tonga, being able to wake up and do this and that". Many spoke of the fact that overseas everything costs money, while in Tonga one doesn't need paid employment to live or to feed their family. Interviewees valued the sense of security around food access in Tonga:

> *if you're hungry in Tonga you just go down to your uncles for food!*
> (Fanau'ifo'ou, talanoa, Nuku'alofa, March 2023).[191]

## Decision-making structures and informal settlements

Informal settlements can be, but far from always are, inhabited by communities with no settled community-level decision-making structures. Often there is some community governance structure and leadership around which decision-making on matters relevant to climate (im)mobility can be wrapped.

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[187] Vaioleti, L. et al. (2024).
[188] Morrison, S. et al (2024b). 10.
[189] Vaioleti, L. et al. (2024). 88.
[190] Peneta Hauma, T. (2024) *Tumua Tafea family of Nanumaga, Tuvalu Pacific Climate Mobility Family Stories Case Study*. Mana Pacific Consultants Ltd. 12.
[191] Underhill-Sem, Y. et al. (2024h). 35.

These are highlighted in community studies on the Lord Howe and Red Beach communities in the Solomon Islands. In Lord Howe, the informal settlement is inhabited by ethnic Polynesians who migrated to Honiara between 1940s-1960s for economic reasons. It has a multi-layered governance structure and retains a chiefly system, with the Chief assisted by a Honiara-based committee on issues concerning village health, law and order. There is also a Lord Howe Settlement Committee which owns the area encompassing the Lord Howe Settlement meaning, any issues or disagreements by occupants must be taken to the Committee.[192] Red Beach (Tenaru) is an informal settlement of residents of Polynesian descent originally from Sikaiana in Malaita. Here also committees are established for dealing with community issues such as policing and livelihoods diversification by securing grant funding for the establishment of Red Beach Sikaiana Cultural Village, which attracts tourists and visitors.[193]

What emerges is that **community-based structures will be a key focal point for local action on matters relating to the impacts of climate change**. While in some settings structures may need to be established to ensure community participation and consent, there will typically be an existing local framework, which can be adapted or developed as needs be, around which a process to ensure meaningful community engagement around (im)mobility can begin to be mapped.

## Transnationalism and transnationally distributed families

### Support across 'place'

Turning to Aotearoa New Zealand, in 2009, at the first whole-of-government, multi-stakeholder conference looking specifically at climate change related migration in the South Pacific and its policy implications for Aotearoa New Zealand, the then Ministry of Pacific Island Affairs drew attention to a then recent study carried out among Pacific host communities (McLeod, 2010). McLeod notes participants were asked to describe positive settlement outcomes.[194] Echoing the point made earlier about the dynamic nature of 'place', McLeod observed:

> Central to the groups' definitions of positive settlement outcomes was the notion that migration and settlement are not static, separate, or linear concepts that start with a point of departure, migration, and then settlement. Participants did not separate from their land and kin of origin to settle in the new context. Rather their motivation was to grow 'family' in the new context; to create another home with secure employment, increased earning power, and increased educational achievement to share with kin at home in the Pacific and elsewhere in the world.[195]

McLeod describes the study's range of findings, including the socio-economic burdens Pacific communities face when assisting others with their resettlement in New Zealand. She identifies a need for policies to support host families to carry out this function.

The research sheds further light on this dynamic. The research in Tonga and Samoa, for example, shows how values, and the 'reciprocal flow of value' are central to the dynamic in both countries. Tongan concepts such as ofa/alofa and fatongia/tuatua (an obligation to fulfil one's role in the family, and sometimes beyond) have been aptly characterised by the Tongan politician, academic and author, Langi Kavaliku (1977) as "the philosophy behind their way of life". In Samoa, Fa'asāmoa describes "a network of values which interact, and

[192] Underhill-Sem, Y. et al. (2024h). 3-4
[193] Underhill-Sem, Y. et al. (2024j). 2-3, 7
[194] McLeod, D., (2010) Potential Impacts of Climate Change Migration on Pacific Families Living in New Zealand, in B Burson (ed.) *Climate change and migration in the South Pacific region: policy perspectives* Institute for Policy Studies. 135-158.
[195] Idem. 139.

which have laid the foundation of customary practices in Samoa (and now for Samoan people outside of Samoa). Some of these values include 'autasi (consensus), alofa, fa'aloalo (respect) and mamalu (dignity)."[196]

This translates to various forms of material support. In talanoa with Samoan diaspora in New Zealand and Australia, **many reported regular payments, often pooled across a number of siblings, to cover accommodation and healthcare costs of family members in Tonga and Samoa**.[197] Substantial proportions of both diaspora surveyed (80% of the Tongan diaspora and ~75% of the Samoan diaspora) reported providing money to family in Tonga/Samoa at least once per year, while ~20% of both diaspora groups reported sending building materials and household appliances to family in Tonga/ Samoa. There was divergence in other areas, however. While ~half of Tongan diaspora reported sending food to family in Tonga at least once per year, only 13% of the Samoan diaspora reported the same and twice as many members of the Tongan diaspora than the Samoan diaspora reported sending items to family in Tonga/Samoa to sell as part of a business or in order to generate some income.[198]

**Hosting was also a significant support provided.** 75% of the Tongan diaspora surveyed, and 57% Samoan diaspora surveyed said family moving from Tonga and Samoa respectively have stayed with them. The research into transnational families demonstrates that the obligation to hosts can be burdensome.

> *I still stay with family. It's too hard to find a place of my own. As long as the house is not too full, then it's okay because I help with buying things at home. That's the other problem, it's hard to get a place to live.*
>
> *Yes, we will need help with homes, financial help for the community, and jobs for those that move.*
>
> *It's like us when we moved here. We had to stay with family until we get our own place if we are able to. Some people can't get their own place and still staying with family. It's okay if that's their own family's house. But if it's not, if they are renting, then it is a problem, because you only allowed a certain number of people in the house. If you break the rules of your rental house, you will get kicked out and then where are you going to go. It takes a long time to get a house from the Housing.*
>
> *Definitely help in housing and accommodating families. Some of our families are already living in overcrowded houses. This is no good. People get sick from living like this. It's okay for a few days, but not for more than two weeks.*[199]

The nature of the duties which can be faced by host communities include 'burdens of obligation' and 'burdens of time':

> *I think that our community are doing their best. But the problem in New Zealand is that you don't have time to do these community things or go to these community events. You go to work from 5, 6, 7, 8 in the morning till 5 or 6 in the evening, every day. By the time you finish work, you are tired.*
>
> *The desire for our culture to live on its there. The problem is that there is no time. We do come together for main events like our Pukapuka day, where we sing our tila, mako, and yimene in our Tawas. Tawa Lalo and Tawa Ngake will compose new songs and chants and recite old ones. It is so much fun.*[200]

[196] Vaioleti, T. et al. (2024a).
[197] Idem. 7.
[198] Idem. 20.
[199] Newport, C. et al. (2024).14.
[200] Idem.16.

## Transnationally distributed Pacific families

As observed earlier in this report, while intra-island mobility is nothing new, over the last 70 years, the scale and pattern of Pacific mobility has changed significantly. This is due to the movement of increasing numbers of nationals from some PICTs to countries on the Pacific rim, most notably Aotearoa New Zealand, the United States of America and, increasingly, Australia. Across the transnational field, the most enduring and most (im)mobility-relevant impact of this has been the creation of distributed kin/family groups.

Across the research, there is a common theme that transnational networks serve as vital support systems for communities facing climate-induced (im)mobility. The Nukunukumotu case study highlights the plight of families who, driven by the harsh realities of sea-level rise and land erosion, find themselves relocating across national borders, often in the form of chain migration:

> *Toko lahi homau kāinga 'i muli pea muimui atu ai pe fa'ahinga*
> [A lot of our people are overseas, and some are following them][201]

Despite the physical displacement, the strength of transnational networks facilitates the maintenance of cultural and familial ties, ensuring that the essence of community is not lost in the physical transition.[202]

Similarly, the Kwai Kwakwaru community illustrates how displaced groups actively work to preserve their cultural identities. This case underscores the role of transnational cultural ties in maintaining a sense of community and belonging, even in the face of displacement. The continuous flow of remittances from migrants back to their home countries plays an economic role, supporting the resilience of communities against climate vulnerabilities.[203]

These networks not only help to maintain cultural and familial ties but also play a significant role in the socio-economic stability of both origin and host communities. In Ambu, the research indicates that the local economy is sustained by remittances and seasonal employment abroad illustrating the interconnectedness of Pacific communities across the region.[204]

The research confirms that mobility introduces complexities and challenges. Transnationalism facilitates the maintenance and strengthening connections to people, place, identity, language and culture; however, it also requires individuals to navigate and reconcile diverse cultural norms and legal networks. Furthermore, the disparities in access to mobility owing to economic, legal, or social barriers can exacerbate inequalities within transnational networks, affecting the cohesion and support these networks can provide.

The case study of the Tokelau Atafu community vividly highlights the complex dynamics of transnationalism and demonstrates how transnational networks play a crucial role in preserving Tokelau cultural identity. This is evident in the transnational community's participation in cultural practices and language use, at places like the Matauala Community Hall in Porirua, Wellington, Aotearoa New Zealand. Importantly, the study also illustrates the importance of relationships between the Tokelau transnational population and Ngāti Toa Rangatira, the mana whenua of Porirua, and how the hall has become a shared community resource space through which this relationship is strengthened.[205]

Recognising Māori as integral to the transnational field is reflected within the research as being important to the transnational community in terms of honouring Māori while fulfilling legal and Treaty obligations,

[201] Nailasikau Halauitui, D. (2024b).10.
[202] Ng Shiu, R. et al. (2024e).
[203] Filoa, A. (2024).
[204] Underhill-Sem, Y. et al. (2024e).
[205] Ng Shiu, R. et al. (2024f). 9.

fostering meaningful relationships based on shared cultural understandings, cultural identities and aspirations. Acknowledging the significance of the relationship between the Tokelau transnational population and Ngāti Toa Rangatira highlights the importance of engaging with indigenous communities within transnational contexts. This relationship could be further strengthened by Māori sharing "experiences that could be of value with those in the Pacific in the context of future climate change mobility."[206]

The family case study on the Gwailao tribe from Ngongosila Islands includes mobility stories of circular mobility from Ngongosila Islands to the mainland of Malaita Province and as well as reflections from those who have more permanently relocated to Honiara and Aotearoa New Zealand. These accounts reflect a variety of factors influencing mobility, including environmental hazards such as tsunamis, as well as food insecurity and economic prospects.[207]

A significant aspect highlighted within this case study is the tribe's spiritual and communal resilience amid environmental challenges such as disappearing reefs and declining fish populations. Despite these adversities, the tribe remains deeply connected to their land and heritage, drawing strength from spiritual beliefs and communal values. Participants living away from Gwailao also share deep attachment to the village. Despite some members migrating to Honiara and Aotearoa New Zealand in search of better opportunities, the essence of the tribe's interconnectedness and resilience endures across borders.

Intergenerational dialogues within the tribe highlight a shared awareness of challenges and the necessity to protect their way of life. The younger generation expresses worries about the diminishing resources on Ngongosila, prompting the urgency for adaptation while maintaining cultural identity. Meanwhile, elder members pass down traditional knowledge and stories, stressing the importance of resilience and looking ahead.

## Living transnationally

A defining condition of the "connected Pacific" is the interdependence of families living in the islands and their extended families living overseas. This section incorporates insights from a small sample of research participants and provides compelling examples of how interpersonal connections, cultural exchanges, economic interdependence, and interconnectedness contribute to and strengthen Pacific transnationalism. This synthesis seeks to highlight the breadth and nuance of discussions on Pacific transnationalism and relationality by presenting discrete examples that illustrate the different dimensions evident across the research.

The concept of transnationalism manifests in various dimensions across the Pacific, as evidenced by case studies illustrating interpersonal, cultural, and economic ties that span national borders. In Nukunukumotu[208], families facing environmental challenges like sea-level rise and land erosion have relocated to other countries, yet they maintain strong cultural and familial connections to their homeland. These ties serve to affirm their identity and preserve their sense of belonging, highlighting the **interpersonal dimension** of transnationalism.

> *It seems that the diaspora overseas, Nukunukumotu people for example, are drawn to affirm their identity through kāinga linkages. That without doubt leads to their land of origin, in this case, Nukunukumotu.*[209]

[206] Morrison et al. (2023).
[207] Sanga, F. (2024).
[208] Nailasikau Halauitui, D. (2024).
[209] Nailasikau Halauitui, D. (2024). 13.

Similarly, in the Kwai Kwakwaru[210] community, the practice of "tok stori," where stories and experiences are shared among tribe members despite geographical separation, demonstrates the **cultural dimension** of transnationalism. These discussions reinforce cultural identity and community bonds, although migration can sometimes lead to feelings of disconnection among youth and tensions over issues like land ownership, as seen in Vaiea[211].

Moreover, the **economic dimension** of transnationalism is evident in examples from Kiribati, Papua New Guinea, and the Solomon Islands. Remittances from family members working overseas play a vital role in supporting communities, providing financial stability and resources for those left behind. This economic interdependence underscores the interconnectedness between Pacific nations and highlights how transnational networks facilitate the flow of resources across borders.

Looking to the future, research exploring potential scenarios of international migration in response to climate change impacts in Tonga and Samoa suggests that **transnationalism linked to environmental change will increasingly influence migration patterns, as communities adapt to changing conditions and seek opportunities in other countries**.[212]

The separation of these dimensions of transnationalism is not intended to overshadow the relationality between these different dimensions. Cultural ties influence both perceptions of home and migration decisions, while economic factors drive individuals and families to seek opportunities elsewhere. Environmental changes directly impact livelihoods and resources, prompting displacement and shaping perceptions of future risk. Interpersonal relationships shape migration patterns and experiences, serving as both support networks and sources of tension. These dimensions interact dynamically, shaping the complex processes of climate change-related mobility and highlighting the need for comprehensive approaches to support affected communities.

The study of the Vaiea[213] community in Niue illuminates the interconnectedness of various dimensions of transnationalism between PICTs. Originating from Nuitao in Tuvalu, the Vaiea community illustrates transnational ties as Tuvaluan families have settled in Niue, and their discussions on land and marine tenure that reveal a transnational dimension to shared resources. Additionally, this case study highlights a degree of cultural and social integration within the community.

Similarly, transnationalism through diverse migration pathways is illustrated by youth from Aruligo[214] and Red Beach[215] who aspire to participate in Australian and Aotearoa New Zealand labour schemes for better opportunities, illustrating cross-border movements for employment that impact economic and social ties. Personal relationships also serve as bridges between cultural and national identities.

Despite climate change challenges, many Pacific community members prioritise remaining connected to their ancestral lands, reflecting the deep cultural ties that shape responses to environmental changes. Moreover, generational differences in views highlight evolving identities, with younger members often more receptive to mobility as an adaptation strategy.[216]

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[210] Filoa, A. (2024). *Kwakwaru Tribe of East Malaita, Solomon Islands - Pacific Climate Mobility Family Stories Case Study.* Mana Pacific Consultants Ltd
[211] Ibid.
[212] Vaioleti, L. et al. (2023d).
[213] Newport, C. et al. (2024f).
[214] Newport, C., et al. (2024f).
[215] Underhill-Sem, Y., Newport, C., Ng Shiu, R., & Galokale, K. (2024j*). Red Beach: A community case study from The Solomon Islands.* Waipapa Taumata Rau, University of Auckland.
[216] We examine youth attitudes to mobility in the 'Future scale, pattern and impacts' section.

Pacific transnational networks play a pivotal role in shaping decisions about whether to move in response to climate challenges or to stay and adapt. These networks, often woven through families and communities that span across borders, are not just social constructs but pathways that influence economic opportunities, cultural preservation, and personal choices in profound ways.

The research teams highlighted various ways transnational families living in countries on the Pacific rim support their relatives in the islands, including offering opportunities to consider overseas destinations for future migration. The evidence shows that family members abroad play an important role in transnationally distributed family groups by supporting their kin in home communities. This support promotes choices about whether to move and is likely to directly influence the future scale and pattern of mobility. As climate change continues, the influence of transnational family support on mobility is likely to grow even more significant. Therefore, the research shows **the important role overseas members of transnationally distributed family groups play in decisions influencing the scale and pattern of international migration, as well as shaping its impact**. **The research suggests this is a common feature of life within transnationally distributed families**.

The transmission of information about the sometimes harsh realities of international migration as an aspect in decision-making also featured strongly in the research. Building awareness of what international migration involves on the part of those moving and those hosting is an important element of transnational relationships:

> *When our people come over, families generally look out for them and help them settle. But I think with this situation of movement of everyone for good, there needs to be a lot of awareness. I mean awareness on both sides.*[217]

In Samoa, for example, a Paramount chief in Savai'i shared how a Matai overseas influences decision-making in the village through family in Samoa and the fact that the Matai resides overseas did not lessen the weighting of their input. Several other research participants in Samoa shared how family overseas participate in, and influence aiga decision-making, including in mobility scenarios. Participants in Tonga shared how family (typically children but, in the case of an unmarried female participant, an adult cousin) had directly encouraged them to move to live with them abroad.[218]

The most common reported role in mobility decision-making was providing information to help with the decision (Tongan diaspora) or providing financial support and information to help with the mobility decision (Samoan diaspora). A slightly higher proportion of the Samoan diaspora (50%) reported involvement than for the Tongan diaspora (40%). Nevertheless, these are large percentages. The various forms of diaspora involvement include:

a. being first responders in post-disaster settings. Participants (both in Tonga, but mainly in Samoa) shared with the team how diaspora family provided support financially, in-kind and through physical support following natural disasters including deciding to return to Tonga or Samoa temporarily to clean up or rebuild a family house.

b. leveraging international networks, and in particular international churches in which the diaspora forms an important part of the congregation, to provide post-disaster relief and support.

c. providing critical direct financial and livelihoods/income stream support and for disaster risk reduction and climate change adaptation at the village-/community-level.

[217] Newport, C. et al. (2024a).
[218] Vaioleti, T. et al. (2024a).

d. communicating that land, over which they have title or lease is available for the purposes of growing crops or for resettlement.[219]

The evidence is significant in that it demonstrates how **the support provided by socially and economically entrenched overseas family members directly influences the scale and pattern of existing disaster and climate change-related (im)mobility in PICTs**. First, it ensures that both the scale and impact of existing disaster displacement is minimised. Second, by reducing vulnerability to hazards, it allows households and communities to choose to stay in place. Third, by making land available for relocation it increases the flex of land tenure arrangements in PICTs to absorb future movement.

One final point of note, is the making of decisions to send younger family members to home communities to strengthen intergenerational relationships and to deepen understandings through immersion in cultural knowledge and practices:

> *I think it's a good thing for our children from New Zealand to go and see Wale. To get to know their family there. To see where they come from. Have a change in the pace of life. It will be a good change. You can get a chance to rest even if you go every day to the taro swamp or prepare the food the way that our parents did – the traditional food. It will be good.* (Pukapuka)[220]

We situate such mobility practiced by transnationally distributed family groups within the broader discussion around circulation later in this report.

# Women and (im)mobility in the context of climate change

Understanding gender dynamics in the context of climate change is essential because climate impacts are not experienced equally by all. Gender significantly influences how individuals and communities are affected by and respond to these challenges. This section delves into some of the unique experiences and contributions of women included in the research. Whilst gender diverse perspectives and experience focused on men and other gender are not fully explored within the research, some observations have emerged. These are addressed at the end of this section to signal that more research with these groups is warranted in the future.

## Women, everyday life and community resilience

The research highlights how women are integral to building and maintaining community resilience in the face of climate change. Their leadership, traditional knowledge, and commitment to family and community demonstrate the necessity of climate strategies that empower women and leverage their unique strengths. Women in Tonga and Samoa mentioned that they hadn't previously considered the idea of resilience in specific terms; it was generally assumed that one simply perseveres in the face of adversity.[221] Some women identified with the notion of 'bouncing back' after setbacks. In Samoa, many women emphasised their faith and religion as a crucial source of strength, highlighting the importance of regular church attendance. They also stressed the significance of maintaining the traditional Samoan way of life and the values of fa'a Samoa, such as respect, which they believe are essential for a peaceful and happy life for all.[222]

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[219] Vaioleti, T. et al. (2024a). 10-11. The communication about land availability arose in talanoa with members of the Tongan diaspora. This is interesting given the particular structure of land-holding in Tonga

[220] Newport, C. et al. (2024a). 12.

[221] Vaioleti, L., Morrison, S., Vaioleti, T. (2024c) *(Im)movable Women*. University of Waikato. 15.

[222] Ibid.

Family was also identified as both a source of motivation and support. Women expressed that their love for and from their families gave them the strength to continue facing challenges. Although they did not specifically label it as such, women in both Tonga and Samoa mentioned overseas mobility options as a form of resilience. They were confident that their family members abroad would support them if they needed to relocate. Additionally, many women shared that they have relied on and will continue to lean on their overseas family members for help with rebuilding their lives after natural disasters.[223]

The experiences shared during Talanoa with women in Tonga and Samoa led the University of Waikato to note that "women are the social weavers, the 'glue' for the family, and keeper of critical genealogical knowledge that affords a great deal of power."[224] In the Tongan context women's roles and influence are described as being pivotal to household and community resilience:

> *"some reflected on older Tongan society (one to two generations ago) and shared how the mothers in the family decided how food would be shared within the family, initiated the sharing of food with neighbours and others of status in the broader community and were deeply 'tapped in' to the social fabric of the community – effectively nurturing, building and protecting the family's critical social capital."*[225]

## Women as wealth creators

In traditional Tongan and Samoan societies, women are recognised as the creators of wealth through the skilled production of cultural items such as ngatu/siapo (tapa cloth), woven mats, and other crafted treasures (koloa). These works are often produced through village women's committees, with agreed-upon outputs expected annually. These items are presented and celebrated at significant events and often given to estate holders, Matai, and Churches as a sign of respect, contributing to the maintenance of va lelei (good relationships). Some items are sold to generate family income. Women also play a crucial role in providing the appropriate koloa for major social events like funerals, weddings, or baptisms. For example, a senior woman from Kolomotu'a, Tonga, shared that if there is a death in New Zealand, people will travel to Tonga to collect the necessary koloa, often accompanied by women from Tonga.[226]

Women are also seen as koloa themselves, embodying knowledge, skill, and wisdom. In Tongan and Samoan cultures, 'ilo (Tongan)/iloa (Samoan) can mean knowledge or insight, while poto refers to the wise application of this knowledge. Achieving an advanced stage of poto brings respect and an esteemed social position. Women are responsible for observing those with greater knowledge and experience and passing this knowledge to others, including the younger generation, through demonstration and practice. As one female community leader in Samoa stated, "to pass on knowledge is to practice it".[227] Overall, women emphasised that practising their crafts, such as weaving in group settings, is vital for well-being. These group activities allow women to observe and share knowledge, contributing significantly to community cohesion and resilience.[228]

## Women in disaster preparedness, responses, and recovery

Women in Tonga and Samoa play an important role in disaster preparation, response, and recovery. Women in Lalomanu village, Samoa, emphasise the importance of fulfilling their roles within the family and village for broader well-being and this commitment extends to disaster preparedness, where they assume

[223] Ibid.
[224] Idem. 6.
[225] Ibid.
[226] Ibid.
[227] Idem. 9.
[228] Idem. 15.

significant responsibilities in coordinating community responses and recovery efforts.[229] Their experiences with tropical cyclones have equipped them with valuable knowledge for responding to future disasters.[230]

A resident from the flood-prone village of Lelata shared that women increasingly bear the burden of preparing for, responding to, and recovering from disasters. She noted that women often manage evacuations during floods, as men are usually occupied with formal employment either in the country or overseas. In Lelata, a woman shared that they are responsible for the arduous task of cleaning up and she expressed frustration over the lack of recognition and support for the crucial roles women play in disaster management.[231]

In Tonga, women are increasingly taking on leadership roles in disaster preparedness, response, and recovery, not only within their households but also at the community and village levels. For example, one woman chairs an all-women disaster preparedness committee in the district of Kolomotu'a. This committee organises community disaster drills, lobbies local government for funding, and maintains emergency food kits at a local church hall. The formation of such an all-women-led group is unique, and participants in related workshops expressed aspirations to establish more all-women groups focused on enhancing district resilience and improvement.[232]

Personal accounts highlight the critical roles women play during disasters. A woman who had relocated from the island of 'Atataa, now residing in the village of 'Atataa Si'i, recounted how she carried her elderly mother and uncle up a hill to escape the tsunami triggered by the Hunga Tonga-Hunga Ha'apai eruption. Other women from Tongatapu also shared how they led coordination and evacuation efforts, confirming the whereabouts of each family member and making crucial decisions during the crisis.[233]

Women's decision-making and leadership are vital in tackling climate change-related challenges and ensuring community mobility and safety, contributing significantly to the resilience of Pacific Island communities. In Tonga and Samoa, women are particularly crucial in leadership roles, especially during emergencies. At a women's workshop in Tonga, participants emphasised their duty to consider "everything and everyone" when making critical decisions during crises. Women frequently advise family and village elders, evaluating the pros and cons of different options, discussing fairness, and considering the impacts on all family members. Although men may have the final decision, women exert considerable influence on decision-making, often in subtle ways.[234]

## Specific challenges and vulnerabilities faced by women

Access to essential services is critical for women in the Pacific, especially in the context of climate change and mobility. Pacific women experience some of the poorest health outcomes globally, including high rates of maternal and newborn deaths, low antenatal coverage, high rates of home births, low contraceptive use, and high rates of unplanned pregnancy. These issues are exacerbated by significant barriers to accessing adequate maternal health services, particularly in remote communities. Ensuring access to health services and infrastructure is vital for improving health outcomes and resilience among women. As climate change continues to impact the region, enhancing access will be crucial for mitigating health risks and supporting the well-being of women and their communities.

[229] Vaioleti,L. et al. (2024c).
[230] Idem. 10.
[231] Ibid.
[232] Idem. 9.
[233] Ibid.
[234] Idem.

Access to basic resources such as water, sanitation and food was highlighted by numerous participants as a significant and additional climate and mobility related challenge for women. Due to the impacts of climate change, in some communities, some women must now walk long distances to fetch water, and in situations where water is scarce, conflicts may arise.[235] According to one participant in Aruligo,

> *"Having a good life is helping access to proper sanitation, water and helping women in the community who are struggling. Because currently, they have to walk to the valley to fetch water for drinking and washing. Due to conflict with those owner of the water sources, so they stop pipe to come to the village."* [236]

The challenge of access to safe drinking water was also captured by during a conversation with a member of Kwakwaru Tribe of East Malaita:

> *"Insaed lo island blo mifala hem garem wata bat taem high tide and si kam insaed aelan hem kam go insaed lo wata, den taem hem no rain mifala ba no garem wata na lo tank blo mifala. So mifala have to go moa lo maenlan fo tek wata* [Our island used to have drinking water, but since we have had high tides, the tides make our drinking water salty, and when we have no rain our tanks are empty so we have to go to the mainland to fetch water] (middle-aged female)"[237]

Water and sanitation also emerge within the research as a challenge identified by female participants. Sanitation issues reveal the diverse impacts of climate change on different community groups:

> *"In terms of health, we need health workers, good facilities to help the mothers to deliver. The mother's in the community find it difficult to find water; kids don't drink clean and safe water." (Managalas)*

> *"Another challenges face is in terms of sanitation. Before the mangrove was used for defecation. That is one side if for female and another side for male.Today most of the mangroves disappeared so people no longer have privacy. However, on the other hand open defecation also pollute their sea as well." (Ambu)*

> *"In the community they also have barriers in terms of sanitation because old people needs their toilet to be closer to the house." (Aruligo)*[238]

In many Pacific communities, remoteness due to vast distances across the ocean or difficult land terrain, is making travel to medical facilities challenging. For example, communities like Papae/Kolosulu in the highlands of the Solomon Islands face difficulties due to inadequate roads and infrastructure, preventing women from receiving timely medical services and interventions.[239] In Managalas, health workers and adequate facilities are essential for mothers giving birth, but women struggle to find clean water, and children lack access to safe drinking water. Ambu faces challenges with sanitation practices, as the loss of mangroves has eliminated traditional defecation areas, compromising privacy and contributing to sea pollution due to open defecation. In Aruligo, older adults need toilets close to their homes, highlighting sanitation barriers. These disparities underscore how access to proper sanitation systems is influenced by gender and age[240].

[235] Ng Shiu,R. et al. ( 2024b).
[236] Ng Shiu,R. et al. ( 2024b).16-17.
[237] Filoa, A. (2024). 14.
[238] Ng Shiu, R. et al. (2024).17.
[239] Idem. 20.
[240] Idem. 17.

Economic constraints also impact women's ability to secure nutritious food, leading to food insecurity and health issues. The burden of ensuring family well-being often falls on women, who prioritise the needs of their children and community over their own.[241] In Ambu, access to nutritious food was identified by participants as disproportionately impacting women and girls in the community. Enhancing women's access to personal and/or community gardens will be an important consideration in terms of promoting everyday resilience at the community level.

In the informal relocated community of Red Beach, members shared that fishing has become increasingly challenging for women who typically fish near the shoreline, while deep-sea fishing with men has gained prominence. One community member noted,

> *"It's now more difficult for women to catch fish easily. Sometimes you have to fish all day to catch enough for your family, unless you go out with the men into the deep sea by boat. Fish have become scarce due to overfishing, population increase, the use of dynamite along the shore, which destroys breeding sites, and warming seas that shift these sites."*[242]

Research undertaken with the Patnav clan families in Yaga Village on Umboi Island further illustrates the challenge of food security:

> *"Today, if you go to the nearest reef that is within our perimeters, you won't find any shell or fish. In the past, my grandparents were able to bring back a lot of fish from these nearby reefs. Today, we have to paddle far to bring back fish. And even when we go and fish or dive outside the boundaries, we (women) get chased. It is no longer safe."*[243]

Climate change has significant health-related impacts on women and their families, affecting their sense of security and well-being. For instance, women in West Coast communities on Niue expressed reluctance to leave their homes despite the risks, emphasising their responsibility towards their children.[244] In some communities, relocation has become necessary for safety due to climate change. Families in places like Bareho, Papae/Kolosulu, Pukapuka, and Vaimaanga have started moving within their villages to safer areas. In Managalas, plans for relocating women and children closer to rivers or bushes during droughts have been discussed to ensure access to food and safety.[245] Women in Tongatapu expressed a deep love for their land and a strong sense of obligation to care for it.

## Economic impacts and opportunities

Access to economic opportunities is vital for women in the Pacific, particularly as they face the challenges of climate change. The research findings evidence how (im)mobility has adversely impacted Pacific women's economic security in two areas.

First, relocation has disrupted traditional economic activities and significantly reduces income sources for many women. In a workshop held in Lalomanu, Samoa, women reported that relocation had severely impacted their livelihoods. Many had previously earned a good income from small businesses selling crafts and seafood along the coastal road. However, relocation inland has cut them off from easy access to the sea and the flow of potential customers, drastically reducing their income.[246]

[241] Vaioleti, L. et al (2024c).
[242] Ng Shiu, R et al (2024b). 15.
[243] Saguba, L. (2024). 16.
[244] Ng Shiu, R. et al (2024b). 28.
[245] Ibid.
[246] Vaioleti, L. et al (2024c). 11.

In Tonga, the economic impacts of relocation were found to be similarly significant. Women from Mango and 'Atataa, who have been relocated, have lost access to pandanus plants essential for weaving, a traditional income-generating activity. This loss has left them without the means to be productive and self-reliant. A skilled weaver from 'Atataa, now living in a church hall in Tongatapu, expressed despair over her uncertain housing situation, which prevented her from continuing her weaving work and earning an income.[247]

Economic barriers make it extremely difficult for displaced families to rebuild their lives. Families forced to relocate often lack the financial means to start anew, and minimal government assistance exacerbates their struggles.

Second, seasonal work programmes, which often take men—and increasingly women—away from their families, pose additional social and cultural challenges. In Samoa, a female pastor highlighted the issue of men leaving for work abroad and not returning, leaving women to raise children alone. A senior government official expressed frustration over the unrecognised impacts of seasonal work and mobility on women, sharing tragic stories of overwhelmed women taking their own lives. The loss of staff members to seasonal work programs also disrupts community support systems and economic stability[248].

Yet, there is also opportunity where women serve as the primary and most reliable sources of income. For example, the economic stability of a family heavily depends on three sisters working in New Zealand. Their financial support is crucial for managing economic challenges, coping with the impacts of climate change, and enhancing overall resilience. However, these women face significant challenges, including the lack of permanent residency in New Zealand, preventing them from bringing family members to live with them.[249]

Moreover, the phenomenon of "missing men," due to overseas work, has led women to assume roles traditionally held by men in Tonga. Women now engage in jobs such as electrical line work and sea shipping. Data from the Tonga Statistics Department show an increase in women's employment across various sectors. Women are also taking on more responsibilities in agriculture, leading community efforts to teach agricultural skills. Notably, the top root crop exporter in Tonga is a woman.[250]

## Domestic violence

The challenges of climate change and mobility have exacerbated domestic violence against women in many Pacific communities. Before relocation, women often reminisced about happier times spent with their families and community, including playing with children in the ocean. Now, many of the women shared challenging stories about greater levels of domestic violence in the home, reportedly mostly driven by financial worries. The issue of increased domestic violence following relocation came up frequently in the women's workshop, with some women wishing for greater implementation of domestic violence laws to protect the women in the village. In one-on-one talanoa with other women in Samoa, including those in government and academia, they shared similar sentiments about the issue of violence against women, particularly during times of uncertainty and disaster. One woman shared "Change brings that out in people – it manifests in violence." Another woman shared this perspective and related it to an 'unaddressed history of violence in Samoa.' [251]

[247] Idem.13.
[248] Idem. 7.
[249] Alofa, P (2024). 16.
[250] Vaioleti, L. et al. (2024c). 7.
[251] Idem.11.

Gender-based violence is a persistent health and social issue across the Pacific region. A male community member in Managalas described the precarious situation of a couple where the male partner continually beats his female partner as she struggles to look after a growing family,

> *Giving birth to too many children can potentially kill her. So, this is the problem women are facing in Naokanene.*[252]

Family planning is crucial for addressing some stressors of gender-based violence and is a key issue in Pacific countries, where high natural fertility rates indicate limited options and choices for desired family size, often tied to economic and educational aspirations for children. This was recognised by several participants in the research, for example:

> *Having a good education must go with family planning because if there is no family planning then there will be a lot of children and some of them will not attend formal education and only go to traditional education"* (Bareho).[253]

> *"Their advice for young people is teaching them about family planning and birth control to reduce population growth"* (Red Beach).[254]

> *...after a year or two in high school, my children often must stop due to financial constraints. This situation strains our household, leading to their return home and inability to continue their education. It would be beneficial to implement family planning measures within our community to receive support in managing our children's future education and ensuring their successful completion of higher studies.* (Member of the men's community workshop, Mangalas). [255]

## Women and mobility

Within the research, women's leadership is highlighted as significant in navigating the complex challenges brought about by climate change-related mobility in Pacific Island communities. Some women in the research found relocation to be a positive experience, as highlighted in discussions with residents of Satitoa in the Aleipata district. One woman expressed gratitude for improved amenities like a new school and better infrastructure, such as newly sealed roads to their plantation land. She also appreciated the opportunity to spread out housing, fostering a sense of privacy and independence within the community.[256]

However, for many women affected by relocation in Tonga and Samoa, movement elsewhere has introduced significant challenges that impact various facets of their lives. Women in these communities, who hold influential roles at household, community, and church levels, face heightened anxiety regarding their social vulnerability in the face of relocation. This fear is rooted in concerns about losing social status and the recognition they have earned within their communities.

In Tonga, women voiced concerns about their limited land rights, which amplify their fears of future mobility. Furthermore, unmarried women may feel particularly uneasy about leaving their family homes due to restricted housing options and psychological unpreparedness. Similarly, in Samoa, women often feel a strong sense of duty to their homeland and family, opting to stay despite environmental risks, illustrating their deep cultural ties and personal commitments.[257]

[252] Ng Shiu, R. et al (2024b). 17.
[253] Ibid.
[254] Ibid.
[255] Underhill-Sem, Y. et al (2024c). 8
[256] Vaioleti, L. et al (2024c).13.
[257] Idem. 11.

Financial constraints pose another significant barrier to adaptation in new locations. Women in Samoa note the financial impracticality of starting anew, especially when relocating with no established support network. As mentioned previously, this economic strain is exacerbated by a lack of government assistance. Additionally, the psychological readiness for change proves challenging for many women, hindering their ability to plan and adapt effectively to adverse scenarios.[258]

## Land and marine resources

Land management systems are often gendered, with rights, responsibilities, and decision-making power typically allocated based on gender roles and norms. However, in some communities, women do hold land rights. For instance, in Pukapuka, taro swamp plantations are inherited matrilineally, and women are responsible for maintaining and passing on these lands. Similarly, in Matupit, Papua New Guinea, land belongs to the Vunatarai clan under a matrilineal system, where the mother is the primary landowner.[259] In Tonga the research highlights that women are particularly vulnerable due to current land laws that provide them with tenuous land holding rights at best. While cultural norms like fatongia dictate that brothers and their children will take care of female relatives, the encroachment of capitalism and individualism may weaken these practices.[260]

The intersection of land and marine resource management with climate impacts presents significant challenges for women in the Pacific. The policies around land gifting, land leasing, and land holding rights, especially for women, are critical in understanding how climate mobility affects them. Codifying land holding rights for women is essential to reduce the reported land insecurity risks exacerbated by weakening traditional values such as fatongia (obligation to care for and shelter women). Reviewing these policies can engage critical stakeholders, including the influential overseas diaspora, to secure their input and support for potential changes.[261]

Generational concerns further complicate land management. In Matupit, disputes over land ownership arise from inadequate information dissemination and adherence to matrilineal traditions. These conflicts are exacerbated by climate mobility, as men marrying women from other regions leave their children without land rights in Matupit, creating tension and uncertainty.[262] Customary land tenure systems, embedded in local customs, traditions, and social norms, are relational, gendered, and generational. These systems sustain community lives and livelihoods, manage resources, and guide decisions about migration within and between boundaries, necessitating close negotiation.[263] In highland communities like Managalas in Papua New Guinea, tensions over land are both physical and social, as women increasingly claim rights to land traditionally passed down to sons. This shift challenges established norms and adds complexity to land management in the context of climate mobility.[264] Understanding women's role in environmental management and resource preservation is also important and in St. John (Betio), a Women's Group in Kiribati has developed community waste and marine management plans to preserve resources and maintain clean marine waters.[265]

[258] Ibid.
[259] Newport, C. et al (2024b). 14.
[260] Morrison, S. et al (2024b). 20.
[261] Idem. 5.
[262] Newport, C. et al (2024b). 21.
[263] Idem. 14.
[264] Idem. 21.
[265] Idem. 14.

## Other Gender Contexts: Men and the Rainbow Community

While the research has focused principally on situation of women, this is not to underestimate the importance of understanding gender implications of (im)mobility more broadly, for men and other gender groups such as the rainbow community. We set out here observations on these groups which emerged from the research.

### Differential experiences of men

Understanding the experiences and perceptions of men in the context of climate change and mobility is important for comprehensively addressing community resilience and adaptation strategies. Historically, men have been recognised for their technical skills and knowledge, particularly in vital areas such as food planting regimes and resource management. Traditionally, they were primarily responsible for tasks like firewood collection, food preparation, cooking, and family cleanup prior to the introduction of indoor kitchens. In Samoa, discussions in women's workshops underscored the significance of upholding traditional gender norms within villages, to serve practical ends and to foster harmony within the aiga (extended family) and the broader community.[266]

Moreover, cultural practices like the haus boi, which serve as gathering places for young men, have evolved differently across communities. While places like Tuam maintain these traditions as vital social and learning environments under elder guidance, others, like Yaga, have seen declines in such spaces, impacting community dynamics and knowledge transmission.[267] These spaces are important in terms of addressing climate change -related (im)mobility: they not only facilitate socialisation but also play crucial roles in community decision-making and resilience building.

### Gender diversity

Future research on climate mobility must include an understanding of gender diverse experiences, including those of individuals who identify as fakaleiti/fa'afafine in Tonga and Samoa. These participants face unique challenges and their perspectives are crucial to consider in planning for future mobility scenarios.

In Tonga, fakaleiti participants shared their experiences and concerns regarding future mobility. They discussed the difficulties of social acceptance within conservative Tongan culture, which often leads them to take on community roles such as government jobs to increase their perceived value. Moreover, many fakaleiti experience lower educational attainment due to bullying, which diminishes their ability to adapt in mobility scenarios.

The research highlights that fakaleiti often prefer moving overseas, particularly to places like New Zealand and Australia, where there is greater acceptance and opportunities for them. One participant expressed enthusiasm about the prospect of relocating to New Zealand, emphasising the appeal of the lifestyle and opportunities available there, humorously noting, "You have all the honey and cheeses!".[268]

Including gender diverse perspectives in future research is essential for developing inclusive policies and strategies that address the specific needs and challenges faced by different communities. Understanding how gender identity intersects with climate mobility can lead to more effective support mechanisms and adaptation strategies that promote resilience and well-being among all individuals, regardless of their gender identity or expression. By amplifying these voices in research and policy, we can ensure that climate

[266] Vaioleti, L. et al (2024c). 6
[267] Ibid.
[268] Idem. 12.

responses are equitable and inclusive, fostering environments where all individuals can thrive amid environmental changes.

# *THE DRIVER OF CURRENT AND FUTURE CLIMATE-RELATED (IM)MOBILITY*

The research demonstrates that it is **the intersection and of localised population pressure, tenure (land and marine), and food/water insecurity which has shaped the scale and pattern of past and current (im)mobility, and will shape the scale and pattern of future (im)mobility arising in the context of climate change.**

**These factors not only intersect but are highly interdependent. It is tenure which determines access to the food and water resources necessary for sustenance. The size and age-sex structure of localised populations at any given time will place a particular demand on systems of tenure and governance. This demand is amplified when localised population trends outpace the capacity of local tenure systems, and the access to water and food resources they govern, to cope. Such capacity will be undermined by future changes in the environment – including degradation and biodiversity loss and whether linked to climate change or not – and by this means affect the scale and pattern of future mobility by shaping decisions at the household and family levels around whether to continue to stay in place, or whether to move.**

We will return to how this multi-dimensional driver may manifest in terms of future scale, pattern and impact later in the report. For now, what is important to stress is **that the intersection and interdependency of these factors has an enduring history of driving (im)mobility in the Pacific**. Mobility in response to pressures linked with access to resources (terrestrial and marine), population change (both growth and decline) and water insecurity has long been a feature of life in many parts of the region.

The movement of I-Kiribati from drought-prone southern atolls and reef islands in the 1950s and 1960s to islands in the Central Gilberts and to the Phoenix Islands is an example of voluntary relocation, with some support from the colonial administration to relieve pressure on resources in their home islands and to have access to more land for their own subsistence. Water insecurity contributed to the movement, and to the subsequent resettlement of those in the Phoenix Islands in the Solomon Islands.[269]

The contemporary presence of this driver is reflected in the community studies. In the study on Takaeang, Aranuka, the fieldwork revealed that the community were descendants of persons who had moved from Southern drought-prone islands in Kiribati and had purchased the land.[270] The study on the Niutao community that moved to Niue is an interesting example of transnational movement in response to resource and population pressures on Niutao in Tuvalu. Research participants described how climate-change related impacts were increasing food insecurity. In particular, saltwater intrusion associated with sea-level rise was affecting swamps where pulaka (taro), a traditional food source, is grown. This is causing some people to contemplate migration, either internally to Funafuti, or abroad.

> *For me the reason why I would support migration, if we take this crop named pulaka, before it is very hard to die but as time went on to around 2002 it started becoming affected from underneath the swamp. Then they started to die off. Time went on, there were completely no pulaka under the swamp. Now there is no pulaka swamp. Now it is all dead.* (Mens Focus Group, Niutao)[271]

[269] These relocations, and others in the post-World War Two colonial-era are described in Lieber (1970).
[270] Ng Shiu, R. et al. (2024d).
[271] Ng Shiu, R., et al. (2024g). 5.

In turn, the study on Funafuti reveals just how the intertwining of tenure, localised population pressure and food/water insecurity shapes international migration.

> *Back in the days people or families that jointly own lands easily have the right to access their family lands, but nowadays it is very hard because most of the lands belongs to people are now own by Government for developments purposes. And some people are really facing a lot of challenges because of lands. Lands are limited to build houses for families or individuals who have rights to lands, and getting more difficult. And this is one of the reason why people are moving or migrate to other countries because not enough lands.*[272]

## Localised population pressure

Population trends at the national level give rise to important mobility-relevant policy issues concerning matters such as urbanisation, employment, social support and, from a cross-border perspective, immigration.

Nevertheless, it is population dynamics at the local scale which helps drive the scale and pattern of (im)mobility and it is here where policy development needs to also focus attention. That localised population pressure is important was evident in the research. A research participant highlighted in a family study :

> *Taim ol i bin lusim Tuam na ol i kam insait em long population blong sidaun na hevi blong giraun long kaikai [My parents left Tuam to come here because of increased in population on the Island and the difficulty in cultivating or growing food there. Also to allow enough land space for others on the Island to use to grow food.]* (Male elder, Patnav clan family, Yaga Village , Umboi Island, Papua New Guinea)

In some communities, localised population pressure dynamics have resulted in sustained pressure on the environment and contributed to increased food and water insecurity. A Church leader in Papae/Kolosulu, Solomon Islands noted:

> *One main change is that land for gardening has become smaller due to the growing population. In terms of gardening, it is usually in the same place, so the yields are not good. Also, water is affected due to the cutting down of trees. If it is a sunny period, water or a small stream dries up.* [273]

The family study in Nagamito Village in Papua New Guinea paints a similar picture noting that "[t]raditional salt production and seaweed growth were integral to the livelihoods and cultural heritage of our community in the past. Due to population growth and expansion of food gardens, compounded with annual climate change impacts, large saltwater lakes/wells that grow seaweed and produce salt are lost."[274]

Many of the towns in coastal locations have informal settlements in locations that are very vulnerable to inundation from waves, spring tides and flooding of rivers, as well as strong winds and saltwater intrusion of freshwater lenses (especially in towns on atolls). Community studies in the main urban areas in the Solomons (Red Beach and Lord Howe Settlement in Honiara), Kiribati (St John, Betio in South Tarawa), and Tuvalu (Funafuti) all made reference to problems linked with increasing population pressure and limits to access to land for migrant families in the settlements and the damage that wave erosion and saltwater intrusion were doing to house and garden sites and to fresh water supplies.

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[272] Ng Shiu, R., et al. (2024f). 7.
[273] Underhill-Sem, Y., Newport, C., Ng Shiu, R., Galokale, K., & Futaiasi, D. (2024i). *Papae, Kolosulu, Guadalcanal Province: A community case study from The Solomon Islands*. Waipapa Taumata Rau, University of Auckland. 6.
[274] Steven, H. (2024) *Nagamito People of Korofeigu, Unggai Bena District, Eastern Highlands Province, Papua New Guinea - Pacific Climate Mobility Family Stories Case Study*. Mana Pacific Consultants Ltd. 20.

## Land and marine tenure

All of the communities covered by the research have customary land and marine governance systems embedded in local custom, traditions, and social norms which regulate how land and marine resources are used and why, including in relation to mobility to, from and within communities. For example, in relation to the Tuvaluan community living in Niue it was remarked,

> *If someone want to build, they can build... if Tuvaluan families want to build or extend their homes, that's their prerogative, but they have to come and ask me (the Leveki) if it's ok and I will tell them it's ok or not.* (Vaiea, Niue)

Tenure systems will also influence how communities negotiate access to land and marine areas:

> *Before, the families that migrated first used to have areas on the reefs that they call 'Ere.' They used to build wall stones on the reefs that mark their boundaries and the families that marks the boundary are allowed to dive and fish in that area*. (Aruligo, Solomon Islands).

Land tenure arrangements in Tonga are such that plans for future relocations will involve negotiations not only with the government but also with the Royal Estate and the nobles. In Tonga, there is a low incidence of leasing agricultural land, currently in low-lying urban areas, for growing food or for home relocation. There is, however, an emerging practice of land swaps on Ha'apai, where the Office of the Governor has contacted heirs of Ha'apai land and is offering to provide land in Tongatapu in exchange for their Ha'apai land. Some have taken up these offers, allowing some in Ha'apai impacted by significant coastal erosion to remain in Ha'apai and relocate inland. [275] In summary:

> Anecdotal evidence would suggest that perceived or actual issues with land availability in Tonga could be a mobility barrier. Research participants have expressed in talanoa and in workshops that there is a lack of land availability and/or land access for subsistence food production or for relocating. Anxiety has been expressed by a few around land availability, particularly on islands of higher relative elevation (e.g., 'Eua) given expectations that those islands may continue to host internally displaced people. Others have shared concerns around emerging leasing and/or gifting practices that some believe could further threaten land availability for Tongans in future.[276]

The research generated by the teams usefully nuances a typology of movement (Fitzgerald 2022, adapting Campbell et al 2007) developed for the Pacific Resilience Partnership. This highlights how different land tenure arrangements may enable or constrain movement at various scales and the issues which can arise with each type of movement. These movements are:

- movement within customary territory;
- movement to other customary territory (rural);
- movement to alienated land (rural);
- movement to other customary land (peri-urban); and
- movement to alienated land (urban).

As to this typology, the research has revealed the following important insights.

[275] Vaioleti, L. et al. (2024). 36.
[276] Vaioleti, L. et al. (2023b). 10.

Although the first type of movement (within customary territory) may be the least problematic in relative terms, this is not to say that say that it is always problem-free. For example, the research in Samoa has uncovered evidence of a shift away from living on inland plantation sites in favour of leasing alienated land in Apia. We return to this below.

Second, in terms of movement to non-customary territory (that is, all but the first bullet-pointed movement), while migration for marriage or work is an important mechanism by which movement occurs at the individual scale, **such movement elsewhere is collective in nature, relationally connected to allowing more people in the form of other family members (often the elderly and the very young at a minimum) to stay in place**:[277]

> *E rarabwa te Uea iroun tariu Ruta are e roonai n au reirei n mitinare i Tangintebu. I nako ni makuri is Kiritimati ao e reke boou ikekei ao e reke naba aba. Ngai te bina n au utu ae waniman ngaira. Iataia ae akea abau i Maiana bwa e nang mwaiti ngaira. I kukurei ba ea reke abau i Kiritimati ao ia katuka Maiana bwa a babai iai tariu ma maneu.*
>
> I thank the Lord for my sister Ruta who sponsored me to do a ministerial course at Tangintebu. I graduated and posted to Kiritimati to work. I got married and was able to get a land lease for me. I am the last born in my family of eight. I know there is no land for me at Maiana because there are so many of us in the family. I know that my siblings will have more land in Maiana to share. (Rotite and Ruta's Family, Maiana Island, Republic of Kiribati)[278]
>
> *distaem mifala lukm si hem raes fising hem lelebet had nao… mifala go lo Honiara fo mifala waka fo helpem oketa families wea stae lo hom*
>
> *[*We realise with the high sea rise, it is harder to fish, so we have migrated to Honiara so that we can work to support families.] (Kwai Kwakaru Tribe East Malaita, Solomon Islands)[279]
>
> *As education and the population increase, the available land will become limited. So, in my opinion, providing activities that engage our students and future community members would be beneficial. This could involve offering opportunities for continued education, job placements, and other income-generating activities. By doing so, we can ensure that those who move away have opportunities while those staying behind can utilise the space for gardening. If we neglect this, the limited land might lead to daily conflicts and, in the long run, seriously impact the future lives of our children*. (Managalas, Papua New Guinea)[280]

Another important dimension of 'move-to-stay' is a process of dual-mobility that involves movement abroad, even for an extended period of 10-15 years as indicated by two Tongan research participants, as part of a deliberate strategy to fund longer-term internal relocation in Tonga.[281] This idea of possible climate change-related dual-mobility was further strengthened through survey data that showed that a high proportion of those planning internal mobility in the next five years to 'escape the impacts of climate change' were concurrently planning overseas mobility in the next five years.[282]

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[277] See, for example, Mana Pacific Consultants Family Studies in Kiribati, Solomon Islands, Papua New Guinea, and Tonga.
[278] Alofa, P. (2024).
[279] Filoa, A. ( 2024).
[280] Underhill-Sem, Y., Newport, C., Ng Shiu, R. & Galokale, K. (2024c). *Managalas: A community case study from Papua New Guinea*. *Waipapa Taumata Rau*, University of Auckland
[281] Vaioleti, L., et al. (2024). 34.
[282] Vaioleti, L. et al. (2023b). 9.

This process of 'move-to-stay' underscores how, **in the Pacific socio-cultural context, (im)mobility-related policy is best developed from a family/kin/community-oriented perspective**. **One implication of this is that policy interventions successfully supporting the flex or capacity of place-based land and marine tenure/governance systems to absorb population movement, must be predicated on the understanding that increasing the range of flex will influence not just the scale and pattern of movement into the future, but also the scale of stay.**

Third, it is **not simply that place-specific land and marine tenure and governance systems will have a differing amount of flex/capacity to absorb the movement elsewhere of persons, because of the accumulated or anticipated effects of disasters or climate on either a temporary of long-term basis, but that these systems also shape decision-making around whether and where to move.**

The research in Samoa provides some valuable insights into the relationship between non-customary land tenure and decision-making and, in turn, how this has influenced, and may influence future scale of (im)mobility in the context of disasters and climate change. Lelata village in Apia sits relatively low, adjacent to the Vasigano river, and is prone to recurrent flooding. Most of the land in the village is freehold. The village was severely impacted by Tropical Cyclone Evan in 2012, resulting in loss of life, as well as the partial or complete destruction of homes and plantations. While for some the decision to remain in place or return was due to a lack of alternative options, that the land was freehold and not customary also emerged as a factor influencing the decision of some families to move elsewhere:

> *We are original settlers but other families bought land from someone else and have no attachment like us… its just land they have and no connections but for us it's deeper.*[283]

Other research in Samoa suggests that ease of access to non-customary land may be shaping current mobility patterns in Samoa, buttressing the findings by IOM (2021) which found that the direction of internal migration in Samoa corresponds to areas with the highest proportions of freehold or leasehold (versus customary) land. In a small group talanoa, one couple reported having recently moved to leased residential land (on a 20-year lease) from family/village land to have some independence and space for their growing family. Further, many survey participants reported plans to move internally, with the reason or driver given as 'moving away from extended family' and frequently, 'move to our own land/moving to bought property away from communal property'.[284]

Further context-specific nuance emerges from research into how the structure of land tenure in Tonga has shaped mobility-related decision-making in two separate communities relocated in the aftermath of the 2022 Hunga Tonga-Hunga-Ha'apai eruption. As already noted, not only was the decision to move taken for them, but the research shows how different rules have applied to different populations, based on the whether the village land was Royal Estate or not. Mango was relocated permanently while others in neighbouring islands were simply advised to retreat from the coast but remained in place.[285] Moreover, there has been further differentiation between those villages relocated to new villages on 'Eua island and Tongatapu. For those evacuated from Mango, the King has reportedly forbidden them to return to the land of Mango because of safety concerns. They can, however, return to the water and do so. In contrast, for those from 'Atataa, the Royal Estate indicated that they were free to come and go from 'Atataa as they like.[286]

[283] Vaioleti, L. et al. (2024). 79-80. The team note that, in the absence of compensation from the government, some families took out loans while others sought funding from family overseas to fund their rebuilds.
[284] Idem. 83.
[285] Idem. 38.
[286] Idem. The authors note, however, that permanent return is not practicable this stage as there is no government school, nor is there a church operating there.

A final point emerging from the research is that the emergence of transnational communities has created a situation whereby absentee holders can impede steps to relocate households and communities. For example, in Ha'apai in Tonga, vacant land that might otherwise be used to relocate households away from erosion-impacted coastal locations is still vacant as the landowners now live overseas in New Zealand, Australia and the United States of America.[287]

## Climate change and food and water (in)security

As noted, localised population pressure can contribute to food and water insecurity in some communities. In this part, we set out the evidence from the research as to how communities experience climate change as a factor threatening food and water security, exacerbating the effects of local population pressure.

In all research contexts and communities, the pivotal role of food and water security in Pacific communities' lives is evident. Across the Pacific, and regardless of geography, communities are observing first-hand how extreme weather events are exacerbating existing food shortages, with reliance on subsistence farming and fishing further highlighted as vulnerable to disruptions caused by climate change. The case studies by the University of Auckland of coastal communities report saltwater intrusion, increased seasonal variability and the lack of arable land as factors impacting the quality of gardens while in upland or inland communities and highland communities, dry weather and excessive heat were impacting yields of gardens. A research participant in Papua New Guinea reflected:

> *As we have mentioned, the heat is one of the major destroyers of our gardens. Even if we move out and plant, the soil is not as fertile as it used to be. It is dry mostly*. (Matupit, Papua New Guinea)[288]

Atoll communities reported that observed climate change impacts have meant that traditional fishing practices based on the shoreline have become less frequent with people moving further out to sea to fish:

> *Nowadays if people go out fishing they hardly catch fish, and sometimes not enough to feed the whole family. And this we witness, is not because of the overpopulated of people, but because of climate change. The fishes are travelling to more cooler and far away seas to survive instead of being in here which is getting hotter.* (Funafuti, Tuvalu) [289]

So, too, the family-based studies of Mana Pacific Consultants record that coastal communities have also observed how changes in the marine environment due to climate change impact food security:

> *Fishing is hard because of the changes in climate. High tides breaking coral where fish live in the surrounding reef.* (Kwakwaru Tribe of East Malaita, Solomon Islands)[290]

The same concerns around marine-based food insecurity emerge from the research in Samoa and Tonga. A Paramount Chief in Samata-i-tai, Savai'i had changed given that due to higher water temperatures causing fish to move much further out, and much deeper, now only those who have motorboats could reach the fish. Others who previously could take the canoe out to fish daily, must now resort to buying fish from the few with motorboat access, putting fish access out of reach for some.[291]

Water security emerged as a strong theme across all research locations and many participants shared their reflections on how climate change has impacted water security. Droughts, as an impact of climate change,

[287] Vaioleti, L. et al. (2024) *Case Studies Ha'apai*
[288] Underhill-Sem, Y. et al (2024d).
[289] Ng Shiu, R. et al. (2024b). 13-14.
[290] Filoa, A. (2024).
[291] Morrison, S. et al. (2024b). 15.

were noted by participants to have forced reliance on underground water sources in Atafu[292] and, in Bareho[293], droughts were understood by the community to have led to saltier water wells. Amongst the community in Vaimaanga,[294] in the Cook Islands, participants attributed intensifying water shortages to extreme weather events. Similarly, in Samoa[295], concerns were expressed about high temperatures leading to water scarcity. In Malagas[296], Papua New Guinea, participants in the Community Men's Workshop stated that water contamination of the river has resulted in people relocating to other parts of the village, or even further away to find cleaner water sources. In Papae Kolosolo[297], in the Guadalcanal Province, participants shared that they must now trek longer distances for water due to drying sources.

In regard to the impact of sea-level rise and saltwater intrusion, West Coast[298] communities in Niue stated that they are encountering challenges accessing clean water due to rising sea levels. Nukunukumotu faces a lack of clean water due to sea intrusion,[299] and according to one participant in Bareho,

> *The sea regularly covered children's playground and created a shortage of new house sites as sites for planting vegetables. The rising sea also changed the physical appearance of the island, with the shoreline shrinking and higher than the average high tides experienced by villages. The sea is also destroying family houses on the island as the shoreline moves into the village areas.*[300]

The research highlights how drought conditions are also undermining water insecurity. Benabena in Papua New Guinea experiences limited water access due to drought impacts on sources. [301]

Environmental, economic, and social factors are strongly connected with food security challenges, prompting individual, familial, and communal adaptations to safeguard traditional practices amidst a changing landscape. The economic necessity of local food sourcing, compounded by the high costs and logistical challenges of importing food, underscores the urgency of addressing these issues.

Adaptation strategies such as market gardens, elevated farming, and innovative agricultural methods[302] are emerging as crucial responses within Pacific communities. However, the reliance on imported foods also raises concerns about malnutrition, particularly among vulnerable populations. Overall, both rural and urban areas in Pacific countries are grappling with the persistent and multifaceted impacts of climate-related impacts on food security, necessitating ongoing resilience-building efforts and adaptation measures.

The following small sample of examples from across the research illustrate a range of food insecurity challenges were noted by each of the research teams. In Vaimaanga[303], shifts in the lagoon ecosystem, attributed to the movement and accumulation of silt and sand, have detrimentally impacted marine life, notably octopus populations, thereby affecting local food sources.

The research undertaken in Funafuti also places the issue of food insecurity within the wider setting of changes in biodiversity, which community members perceive will influence mobility decisions.

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[292] Ng Shiu, R. et al. (2024e).
[293] Underhill-Sem, Y., Newport, C., Ng Shiu, R., & Galokale, K. (2024g). Bareho Village, Nono Lagoon: A community case study in the Western Province, The Solomon Islands. Waipapa Taumata Rau, University of Auckland.
[294] Newport, C., et al. (2024e).
[295] Vaioleti, L., et al. (2024).
[296] Underhill-Sem, Y. et al. (2024c).
[297] Underhill-Sem. Y., et al (2024i).
[298] Newport C. et al. (2024g).
[299] Nailasikau Halauitui, D. (2024b) *Tonga Nukunukumotu Case Study - Kāinga, Nukunukumotu, Tonga - Pacific Climate Mobility Family Stories Case Study*. Mana Pacific Consultants Ltd
[300] Underhill-Sem, Y. et al. (2024g).
[301] Steven, H. (2024).
[302] Ng Shui, R. et al. (2024c); Morrison, S. et al. (2024b).
[303] Newport, C. et al. (2024e).

> *The crops, coconut trees and breadfruits were abundant, unlike today's we can see that the trees and crops are not abundant. Our Tuvaluan people depend on these crops and trees, as well as fish. However, the people are running away to New Zealand because they are looking for a better life for their children.* (Funafuti, Tuvalu) [304]

In Kiribati, it was also noted that in St John Betio's[305] traditional food acquisition methods like fishing and farming are threatened by climate change-induced adversities like coastal erosion and water scarcity, posing existential challenges to food security. So, too in Atafu, Takelau where one family member remarked,

> *Ko na aho ie nae fakahoa fakatahi te katiga a na kaukāiga. Ko na tino foki nae makeke lele toto na lakau, kua he ve na aho nei. [Distribution of local food, our extended family food was shared at this very place. People were avid farmers in the past compared to today.][306]*

In Tonga, lower family crop yields (due to soil salination in low-lying areas and/or heat affected plants) and delayed or missed crop plantings (due to unpredictable seasons and/or uncommonly heavy rainfall) leading to impacts on food insecurity and income were all raised in talanoa:

> *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*)[307]*

In Samoa, in a range of talanoa in Upolu and Savai'i revealed concerns of village mayors, High Chiefs, Church leaders and other community leaders that climate change was impacting food security by diminishing productivity. The team also heard that severe heat was preventing people working in the plantation or limiting people's work time to only the early morning hours. An agriculture consultant working with communities across Samoa shared his concerns that climate-impacted household food security is a significant risk and is currently a driver in mobility from rural to urban centres as people seek alternate ways to feed their families.[308] In the Future Scenarios session in Samoa, it was a clear shared belief that unaddressed food insecurity would drive significant increases in rural to urban movement.[309]

Whereas the above speaks to food insecurity as contributing to decisions to move within borders, the family study of kāiga Atafu, Tokelau yields important insight as to how cross-border migration pathways within clusters may shape perceptions of food insecurity and contribute to cross-border mobility:

> Elia talked about how the term *'halofia'*, or weakness brought on by the lack of food, is not heard of these days, probably because rice, milk and cereal is now available most of the time. Aofata talked about 'tupulaga o te alaiha', or the rice generation, where many or most of the children prefer rice to local food. It is the convenience offered by faster food preparation and less strenuous work as more and more people opt for imported food, according to Aofata. Climbing coconut trees is hard work and only young men who are of slight build can climb coconut trees. This links to what Elia and Timo referred to as the times of the past and present are different, and more people are voluntarily moving to villages and or countries where you can have access to food which is a lot easier instead of catching them.[310]

[304] Ng Shiu, R. et al. (2024f).
[305] Ng Shui, R. et al. (2024c).
[306] Tulano, T. and Toloa, L. (2024) Kāiga Atafu, Tokelau - Pacific Climate Mobility Family Stories Case Study. Mana Pacific Consultants Ltd. 12.
[307] Vaioleti, L. et al. (2024). 25.
[308] Idem. 77.
[309] Vaioleti, L. et al. (2023c). 8.
[310] Tulano, T. et al. (2024). 13.

Finally, this study is important has it evidences how these changes in the diet away from traditional food sources are leading to an increase in non-communicable diseases in Tokelau, most notably cancer. This contributes to further cross-border mobility in order the access treatment.[311]

These research examples make it clear that **the climate change-related food and water security challenges and associated biodiversity loss facing communities across the Pacific are wide-ranging and multifaceted.** They undermine traditional practices centred on gathering sufficient catch and/or harvesting sufficient crops to provide sustenance to families and communities across diverse geographical settings, from coastal areas to inland regions and atolls. These challenges intersect with local population pressure and land and marine tenure to influence the scale and pattern of (im)mobility.

# *CURRENT SCALE, PATTERN AND IMPACTS*

What follows is a picture of trends, not an exercise involving extensive modelling. In keeping with the architecture of the Pacific Climate Mobility Framework, **we focus on staying in place, displacement migration, and relocation as descriptions of points along the way of the (im)mobility continuum**. While recognising these are technical terms not anchored in the Pacific vernacular on which the research draws, their endorsement by Pacific Island Forum Leaders in the Framework signals the desirability of this analysis orientating around these terms.

Before doing so, there are three points of fundamental importance that policy makers need to have firmly in mind, regardless of the policy domain when seeking to development policy relating to the (im)mobility of Pacific peoples.

## (Im)mobility as a continuum

**A critical feature highlighted by the research in terms of current scale and pattern of (im)mobility is that at all forms – staying in place, displacement, migration and relocation – are present at any time, albeit at different scales.**

This means that, while necessarily separated to capture a sense of scale, pattern and any movement-specific issues, they are best regarded as existing along a *continuum of experience* and intrinsically *connected*. By this we mean that some, but far from all Pacific people, experience these different forms throughout their life cycles.

Scaling up, all forms exist side-by-side within families and communities. Again, this is not to say all families and all communities experience all forms. At the local scale, there is variation. But, once we telescope out to the national and regional level, the picture homogenises to some extent with all forms present to some degree. However, as noted in the preceding section, the extent to which international migration features along the continuum of experience is the most variable.

The multigenerational family/kin group studies of Mana Pacific Consultants capture this picture at the individual and family/kin scales. That these studies span the length and breadth of the Pacific means they also paint a compelling picture at the regional scale, including that movement of some family members is typically connected to allowing others to stay in place.

[311] Idem.

The Maiana kāinga/family study from Kiribati vividly captures the extraordinary level of connected (im)mobility currently existing in the Pacific. The study records some family members initially moving to Betio on Tarawa, with one then moving to Kiritimati (for study, then marriage) and another Nauru (for study). Three women of the family, including family member who went to Nauru, are in New Zealand as RSE workers where they support family in Betio. Summarising this family's experience of (m)mobility, the study notes:

> This family has travelled and moved over 3,000 km away from home at different times. When the family members decided to move to Tarawa, Kiritimati, Nauru or New Zealand, it was for economic reasons mostly to support and care for their family. Their mobility in the past was not directly driven by climate change. Today, members of the family working in New Zealand moved with the intention that some day they will have a chance to have permanent residence in New Zealand and be able to help their families back in Kiribati to stay or to migrate. The desire to work overseas or to find a job anywhere, where they could earn enough to support families, is of utmost importance to them because they have experienced coastal erosion and the lack of clean drinking water. This family will continue to work hard to build stronger seawalls, purchase water tanks and build resilient housing. They fear that time is not on their side![312]

The co-existence of immobility and mobilities at different scales is also in evidence from the findings from field work in the Ha'apai group – one of the island groups in Tonga that is most exposed to threats affecting low-lying coral islands and where approximately 40 metres of coast has eroded over the last four decades. In areas such as Hihifo families were being allocated government land inland to allow them to move. However, some families have moved to Tongatapu "following significant loss of their land to the sea" and one family at least relocated to New Zealand for the same reason.[313]

Reflecting how (im)mobility can operate as a continuum at the individual level, a participant from Ha'apai, reported that, for her, it is easier to move to Tongatapu first before moving overseas, using Tongatapu as a place to build some confidence, and possibly raise some capital, before undertaking onwards mobility to New Zealand, then ultimately the USA where she has close family.[314]

The final point to note is that, in keeping with the Pacific hazard-scape we outline above, the studies in Samoa and Tonga also make clear that displacement, migration and relocation arise in the context of geophysical hazards. In Samoa, in the wake of the 2009 tsunami, several villages residing at the coastal end of their village retreated inland to limit their exposure to future tsunami risk. This includes the village of Lalomanu which has a population of just over 700 people.[315]

We wish to re-emphasise two important points about 'place' that emerge from this section on the connected Pacific which are fundamental to understand the scale, pattern and impacts of current (im)mobility: the multifaceted nature of 'place' and Pacific peoples' relationship to 'place' and the dynamic nature of 'place'.

## The multifaceted nature of 'place' for Pacific peoples

The multifaceted nature of place for Pacific peoples comprises several elements, namely:

- *Place as belonging*. This dimension captures the very essence of what it means to be a Pacific human 'being', with people and place intertwined. It is this sense of place as belonging which drives much of the circulation discussed above which characterises Pacific peoples' mobility.

[312] Alofa, P. (2024). 5-6.
[313] Vaioleti, L. et al. (2024). *Case Studies: Ha'apai*.
[314] Vaioleti, L., et al. (2024). 34.
[315] Vaioleti, L., et al. (2024). *Case Studies: The Women of Lalomanu*.

*Pikinini foldaon from mami, foldaon lo insaed sanbis nao. Iu save go na wanem diswan meanim. [As a child is "dropped", it's the sand that receives the child. This meaning, the island has received the child, where else will the child go?]* (Kwakwaru, East Malaita Solomon Islands)

- '*Place' as a site of attachment /connection* to the tangible – to land (including here people, past and present), ocean and sky, to flora and fauna, to language and culture – as well as the intangible – to values, faith and protocol.

  *iu mi man lo island ya, ples blo iumi na ya*
  [we are people of the island, this is our place] (Gwailao Tribe, Ngongosila Island, Solomon Islands)

- '*Place' as a site of everyday life and activity* where traditional knowledge is passed from generation-to-generation and traditional practice is the true source of resilience to environmental change.

- 'Place' as a source of spiritual and emotional sustenance and wellbeing.

  *Ples God givim iumi na ya*
  [This is the place God has given us, not anywhere else]. (adult female, Ngongosila, Solomon Islands)

**Describing how intertwined the ocean is to any discussion of staying 'in place'**, under the heading "Indigenous cosmologies and their relationship to the natural world" Veitayaki et al (2024) state:

> "Pacific peoples' relationship with the ocean is inscribed in cosmologies which span the liquid continent and the islands. Narratives of origins, genealogies and worldviews are steeped in connections with the ocean and the gods, deities and animals which inhabit it. Ancestral humans of the Pacific are believed to have shape-shifted, taking on the form of turtles, sharks or birds, and they have traditionally called on the assistance of marine creatures such as the stingray and eel (Maude and Maude, 1994, 23) to pull up islands, creating them by dropping stones or separating heaven, sky and earth, and to establish new communities after crossing vast distances." [316]

**The multifaceted nature of the relationship Pacific people have to 'place' is critical for policy for three reasons:**

**First, it explains why 'staying in place' features prominently in current pattern and will continue to do so in the future.**

**Second, it makes very clear just how profound loss and damage to place is and will be, ensuring policy debates transcend the sterile technical language of economic and non-economic loss.** [317] The scale of loss of 'place' as 'being,' while having a non-economic dimension, is not well served by such language. The potential scale of **place-based loss and damage** at certain thresholds of climate change is viscerally foreshadowed in the University of Waikato's '*Visions*' report. They observe in their high-level summary of the visions (their emphasis):

> The majority of **participants assumed future disconnection with nature, particularly in relation to the ocean.** Compared to the past where they described many people in the ocean fishing, in the

[316] Veitayaki, J., Kitolelei, S., Vave, R., Kensen, M., Huffer, E., Ah Siu-Maliko, M., Young, L. and Vunibola, S. (Forthcoming 2024) Solwara, moana, ocean and local communities—the social, cultural and economic connections. In Ratuva el al. Pacific Ocean and Climate Crisis Assessment University of Canterbury and University of the South Pacific .

[317] This element of place is also emphasised by Baleinakorodawa and Boege ( 2024) in relation to relocation in Fiji. 6-7.

shallows swimming and collecting food, playing in the ocean, in all futures there was a clear pull-back from that. Some said that no one was in the ocean anymore, no one was fishing or collecting seashells, and an absence of fish traps, or, that they could only see a few people fishing. Someone described it 'as though it were no longer possible [to go in the ocean]'. Given the ongoing dependence of many in Tonga and Samoa on ocean resources (for subsistence and income) this **could hint at a future driver of mobility - moving as a means to ensure food security and income.** [318]

**Third, it suggests that establishment of a sense of place should be a policy/ operational imperative in relocation and cross-border migration. Particularly when relocation and cross-border migration occurs in Aotearoa New Zealand then the relationship with Māori becomes significant**. Māori also are a place-based people. They reference the boundaries of their territories to articulate genealogical connection or whakapapa through which they introduce themselves acknowledging their mountain, rivers, land and oceans. Marae or meeting spaces within tribal boundaries stand as testament to these physical and spiritual connections to place. Several families from a common ancestor belong to a marae and they also hold the role of kaitiaki or guardians of their territories activating their leadership or rangatiratanga in place. Marae are places where identity is celebrated which include being places to commune, places of mourning, places of learning and storying and places where the spirit of ancestors can be sourced. In a climate mobility context, marae could play a critical supporting role in the initial and ongoing response as well as possible longer term integration support.

The example given earlier of the Murihiku/Bluff community partnerships with a Samoan community is an example of how the marae, Te Rau Aroha has supported and integrated families (some of which have intermarried) into marae social and cultural activities. At the top of the South Island, Te Awhina marae in Motueka has both historically and in the present been welcoming of Pacific communities. In the 1970's some 300 Fijians were flown into Motueka as part of a seasonal labour scheme and found solace and support at the Te Awhina hall which was opened in 1958 to provide a facility for the Māori community and in particular, seasonal workers who had come to harvest tobacco and hops.[319][320] The support provided to the Fijian community at that time was a critical catalyst to the development of a proper wharekai (dining hall) and later to Te Awhina marae.[321] Te Awhina marae which was opened in the 1990's continues to ritually welcome RSE workers into the area through powhiri and ensures that the workers are included in cultural and social events.[322]

## For Pacific peoples, relationship to 'place' has been, is, and will continue to be, dynamic

Pacific peoples have long moved from 'place' to 'place', the oral traditions of whom tell of movement to form new settlements in new places stretching back centuries. These are captured in the various community case studies. For example the study on *Pukapuka- Te Ulu o te Watu* , *Cook Islands,* notes one key informant recounting,

> *...our origins are that we are descendants of Mataliki. The story goes that the God Tamayei was flying over the ocean and needed a place to rest and so commanded a rock to rise from the ocean floor and when it did our ancestor Mataliki was in that rock. He later sailed to a land called Tongaleleva and found a wife, and from their children we became a people. We still tell that story today to our children.* [323]

[318] Vaioleti, L. et al. (2023c). 8.
[319] https://www.tam.org.nz/about.
[320] https://www.theprow.org.nz/yourstory/Seasonal-Workers-Motueka/
[321] Talanoa with Barney Thomas, 29 June 2024.
[322] Morrison, S. L. (2018). Ako ki he nofo 'a Kāinga: A Case Study of Pastoral Care Between Wakatū/Kono and Recognised Seasonal Employment Workers. *Handbook of Indigenous Education. Springer, Singapore. doi: https://doi. org/10.1007/978-981-10-1839-8_9-1*.
[323] Newport, C. et al. (2024e). 5.

Similarly, the community case study on Mangalas, Papua New Guinea notes:

> Oral traditions of the local people identify and mention migration routes from the mountains to their current place of residence separated and distinct from tribe to tribe and then differentiated by clan to clan. Traditional myths and legends tell of the origins of different tribes who migrated from one place of origin and scattered to different places in the Managalas area over centuries. There is a common myth or legend that tells a story of how people settled on the Managalas plateau. [324]

Talanoa with a land expert and with another academic leader in Samoa has revealed the increasing thinking and evidence – including mapping – building a more detailed history of mobility, where 'place' was originally inland and upland villages prior to the movement of populations to coastal areas in response to greater levels of trading with foreigners.[325]

This dynamic formation of additional or new 'place' continues. In the 1960's, elders from the atoll of Sikianna in Malaita bought the land from the traditional Guadalcanal landowners and established Red Beach settlement. This community study records that that "although from Sikaiana by culture, some of the second-generation occupants at Red Beach believe that for them, their home is Red Beach, not Sikaiana."[326]

So, too, in family study of the Patnav clan. In 1962 in Papua New Guinea one family of the Patnav clan, including children and grandparents, moved to live in Yaga Village on Umboi Island, Siassi. The move was due to severe food shortages, compounded by population increase on Tuam Island in the 1950s. A male elder in the family, recounted as part of the family study,

> *Planti nau yet na bipo olsem rot blo kam insait long hia ol sa kam painim hat ah olsem ol bai kam stap wantem usait tru taim ol i kam long painim ol samting olsem Morata na kaikai , saksak na ol disala kain samting. Ol i kam em olsem i nogat man em i luksave long em long sidaun so wanpla rot tasol long ol i mas rausim ol i kam long savim ol Tuam long larim giraun mas i stap bikpala liklik. Ol arapla i stap long peles ol i mas kaikai long em na ol i kam insait tu bai ol i kamap briris long ol long taim ol i kam. I mas i gat hap long ol long ol i sidaun na mekim ol disala wok blo ah painim ol morata, sampla kaikai na bihain ol i go bek ken. Bikos planti taim em ol sa trade wantem ol Bikpeles long kisim ol disala ol samting.*
>
> [My parents left Tuam to come here because of increased in population on the Island and the difficulty in cultivating or growing food there. Also to allow enough land space for others on the Island to use to grow food. One of the challenges of the Island people is when they come here to trade or do other business, most times they don't have people that they can come and be with so my parents moving here is like a link to their families back home. So now when they come to trade for sago leaves (materials for building house) or food, they have people that they can be with to do these things and once they are done, they can return to the Island. Because a lot of times they trade with the mainlanders (Umboi locals) to get these things.[327]

Informal settlements have been a feature of Pacific towns from the outset — they partly reflect the challenges of accessing land but also the desire to establish a base in town for wantoks from the outer islands. For the latter, the establishment of an additional 'place' is not necessarily linked to long-term movement by

[324] Idem. 4.
[325] Morrison, S., et al. (2024b). 11.
[326] Underhill-Sem, Y. et al. (2024j). 3.
[327] Saguba, L. (2024) *Resettlement of Patnav clan families in Yaga Village on Umboi Island, Siassi, Morobe Province, Papua New Guinea - Pacific Climate Mobility Family Stories Case Study*. Mana Pacific Consultants Ltd. 12.

specific individuals, but more the establishment of a place where fellow kin can have a base in town. This is a long-established practice in Vanuatu.

As we have noted, this dynamism includes Aotearoa New Zealand. **Although the movement of Pacific peoples to Aotearoa New Zealand and elsewhere on the Pacific rim at scale is a very recent phenomenon, this means transnationally distributed family/kin groups have relationships with more than one 'place'** and along some or all of these dimensions. After noting the movement of Pacific peoples to Aotearoa New Zealand for work, at first in manufacturing centres but increasingly also in the 'rural and agricultural heartland', Damon Salesa argues:

> A key lesson pacific peoples offer is of bodies in motion. Their stories show that much labour still has to happen in particular places and there are opportunities there. Pacific peoples have also discovered that they can move not just families but can also take community with them, or fashion new community when they arrive – that home is partly a cargo of relationships, and that they can build genealogies and places that hold Pacific people together. They can build new islands of the Pacific. [328]

Having made these general framing observations, it is now possible to turn to the specific (im)mobilities referenced in the Pacific Regional Climate Mobility Framework.

## Staying in 'place'

The multifaceted nature of place means not moving is unarguably the most common element of current pattern. Despite environmental challenges like sea-level rise, many communities show a steadfast commitment to their ancestral territories, preferring to stay. The following statement by a research participant in Bareho, captures just why staying in place dominates current (im)mobility scale and pattern:

> *Reluctance to move is based on loss of connection and scared sites. It is the place where ancestors, parents, spouses and other loved ones are buried. They tend their graves as part of maintaining their relationship with them. So, if they relocate the graves will become covered with bushes and this will make them feel sorry. If I move out who will look after their graves?* (Bareho, Solomon Islands)

That a livelihoods-oriented identity forged by ancestral ties to land and ocean also drives decisions to stay in place emerges from the case study on Pa'atangata:

> *We don't want to move like the Mango people. We are fisher people, we don't want to work in a plantation.*
>
> *We don't have land here, but we do have the sea. And when we are here we can get money every day*. (Pa'atangata, Tonga)

The research in Papua New Guinea illustrates how strong family and community relationships influence decisions to remain in place, particularly among older generations:

> *Our children, born here, make this place our own. Our connection to Itokama is strong; it's where our roots are. Although we might consider tending gardens or other activities back in our original places, essentials like the Airstrip, school, and health facilities anchor us here. These services are*

[328] Salesa, D. (2017). 102.

*integral to our community, so we maintain and care for them collectively. Unity binds us, making it hard to imagine separation or going back, as we've grown and built our lives here.*
(Managalas, Itoakama, Papua New Guinea)[329]

The cohort least likely to/or to want to move for Tonga and Samoa was the 45-54 year age group – the "steadfast stayers". There was a gender difference for Tonga, not for Samoa.[330] This is not to say no movement occurs among those who stay in place. Daily life is of short-term movement: to markets, to planation sites, to the foreshore and ocean, to town, to visit relatives. Yet, for most Pacific peoples their lives remain rooted in particular places, some involuntarily, but many voluntarily. As we have already noted, for many, their staying in place is connected to the migration elsewhere of other family members.

## Displacement

Tracking and getting an accurate sense of the scale of displacement is a difficult in the Pacific. Many survival displacement events occur far from administrative centres, are localised (such as from landslides) and of relatively small scale. Nevertheless, these displacements do increase regional scale and the impacts can be just as adverse for the affected population. Disaster displacement in PICTs tends to be underreported because a lack of dedicated and skilled capacity, and insufficient data and information governance (May 2022, 11). This is particularly the case in relation to Papua New Guinea.[331] Given the demographic context highlighted in this report, this is a significant regional public policy challenge.

The International Organization for Migration has developed a displacement tracking matrix, the aim of which is to produce data on displacement as it occurs, to better guide humanitarian response. Its reach into the Pacific is limited with tracking being done only in relation to some events, and then only in Fiji, Vanuatu and Papua New Guinea.[332]

A recent study on Fiji indicates that one feature of pattern is that some people displaced to informal settlements will settle there on a more long term basis where their livelihoods have been severely impacted by weather and climate-related events, although more research was need to establish the extent to which this was a trend (Pacific Centre for Peacebuilding, 2023).

### The Pacific Response to Disaster Displacement (PRDD) (2019-2022)

The reports generated of the recently completed Pacific Response to Disaster Displacement Project provide some important insights into the current scale, pattern and impacts of disaster-related displacement.[333] Work by the Internal Displacement Monitoring Centre (IDMC) as part of the project indicates significant levels of disaster displacement in the Pacific connected to sudden-onset events. While it does not contain estimates for sudden-onset events, given the relationship between some weather-related sudden-onset events and slow-onset processes, there will be some element of hazard intersectionality behind these estimates.

[329] Underhill-Sem, Y. et al (2024c). 12.
[330] Vaioleti, L. et al. (2023b). 8.
[331] IDMC (2022d) Disaster Displacement: Papua New Guinea Country Briefing. 8. https://www.internal-displacement.org/publications/disaster-displacement-papua-new-guinea-country-briefing/
[332] See IOM *Displacement Tracking Matrix Datasets*. Website. https://dtm.iom.int/datasets?f%5B0%5D=dataset_region%3A139
[333] The project partners were Internal Displacement Monitoring Centre (IDMC), the International Organization for Migration (IOM) and the Platform on Disaster Displacement (PDD). They worked with governments in Fiji, the Republic of the Marshall Islands, Solomon Islands, Tonga and Vanuatu to generate new evidence and develop new and improved operational tools. See https://www.internal-displacement.org/project-spotlights/pacific-disasters/

IDMC has estimated that 30 displacement events have triggered approximately 153,000 displacements in Fiji alone, between 2008 and 2019.[334] A further 19 displacement events in Vanuatu between 2008 and 2020 triggered almost 175,000 further internal displacements with the vast majority (about 87%) being triggered by weather-related events, particularly storms. The remaining 13% caused by geophysical events.[335] In the Northern Pacific, for the Marshall Islands, IDMC estimated there were 2,046 displacements between 2008 and 2021. These resulted from three weather-related events – high tides impacts aggravated by storms and floods. [336]

One important aspect of the scale of new displacement emerging from IDMC's data is variability, depending on the event. In Fiji, for example, these ranged from 10 and 80 new displacements due to landslides in Cakaudrove in April 2019 and Navosa in February 2019, respectively. However, some of the 15,000 new displacements resulted from flooding in 2012, and 18,000 were a result of Tropical Cyclone Tomas in 2010.

IDMC's data also draws attention to how a single catastrophic event can significantly affect the scale and impact of displacement. Tropical Cyclone Winston in 2016 resulted in 62,000 new displacements – some 40% of all displacements in Fiji the last decade – and there were 44 deaths. 350,000 people were affected, and 32,000 houses were destroyed or damaged.[337]

In the Solomon Islands, the 2014 flooding in Honiara was the most impactful event to date, with 10,000 persons displaced to 30 evacuation centres. **Protected displacement was also a feature of pattern** with 4,000 people still living in emergency shelters a month later. 22 persons were killed, and it is estimated that almost 10% of the country's population (around 52,000 people) were affected. Reflecting its seismically active geo-morphology, IDMC's data reveals that geophysical events triggered almost 8,000 movements between 2008 and 2020, representing almost a third of the displacement recorded during that period.

A magnitude 8.0 earthquake which struck off the Santa Cruz islands in Temotu province in February 2013, caused a tsunami that was particularly devastating on livelihoods of the mostly subsistence farmer population. These, along with landslides also triggered by the event, displaced 3,500 people, destroyed 588 homes and directly affected around 37% of the population of the Santa Cruz islands.[338]

In the Marshall Islands a single event – a king tide in March 2014 – triggered outsized displacement at around 1,000 people, and damaged 70 homes in Majuro. A further 246 persons were displaced, and 36 homes were damaged on Arno atoll. Around 80 per cent of its sanitation facilities were affected with sewage leaks reported in some areas.[339]

## Urban Displacement

More granular analysis of impacts in urban settings also featured as part of the PRDD project, with case studies on Ba Town in Fiji and Port Vila in Vanuatu where internal migration has contributed to the growth of

[334] IDMC (2020) Sudden Onset hazards and the Risk of future Displacement in Fiji. Website. https://api.internal-displacement.org/sites/default/files/publications/documents/fiji_riskprofile_idmc.pdf
[335] IDMC (2022c) Disaster Displacement: Vanuatu Country Briefing. Website. https://api.internal-displacement.org/sites/default/files/publications/documents/Vanuatu_country_briefing.pdf
[336] IMDC (2022). *Marshall Islands: Disaster Displacement Risk Profile*. Website. https://www.internal-displacement.org/publications/marshall-islands-disaster-displacement-risk-profile/
[337] IMDC (2020). 8-9.
[338] IDMC (2021a) Sudden Onset hazards and the Risk of future Displacement in the Solomon Islands. Website. https://api.internal-displacement.org/sites/default/files/publications/documents/21_0907_IDMC_SolomonIslands_Riskprofile.pdf
[339] IDMC (2022b) Sudden Onset hazards and the Risk of future Displacement in The Marshall Islands. Website. https://api.internal-displacement.org/sites/default/files/publications/documents/220224_IDMC_RiskProfile_TheMarshallIslands.pdf

informal settlements.[340] In each town, survey interviews were conducted with households who had been displaced by floods and other natural hazards in the past year. 300 survey interviews were conducted in Ba and 307 in Port Vila, in Teouma, Prima, and Blacksands. Although not claiming to be representative of each town's displaced population, the studies provide a useful window on contemporary displacement in Pacific urban settings. Key findings were:

1. Poor urban planning and poor housing exacerbated climate risk and increased the scale of displacement.
2. Repeat displacement was a feature of pattern.[341]
3. Urban displacement patterns were highly localised and typically of short duration with only a small minority experienced protracted displacement.[342]
4. Family were typically the primary source of support. Mostly, people displaced in both studies were accommodated by friends and relatives who are the front line of response.
5. In terms of impact, displacement affected livelihoods, disrupted schooling and led to health problems. Persons who experienced multiple displacement suffered a significant and progressive erosion in resilience, contributed to by limited financial or technical support.

**The key conclusion of both studies is that housing needs to be prioritised in recovery programming and in development**. This is not simply a matter of improving construction, but also improving tenure. The lack of official documentation at the time of displacement had disincentivised using income to construct of more permanent and durable structures.

The research undertaken in Tonga provides further evidence of event-related variability and protracted displacement, albeit linked to the 2022 Hunga Tonga-Hunga Ha'apai eruption and not a climate-related hazard. The case study on 'Atataa reveals a situation of protracted displacement, with not all persons displaced being as yet resettled. While 21 homes had been built for some of the families of 'Atataa, at the time of the fieldwork in April 2023, many other families and individuals were still living with extended family or in a church hall in Nuku'alofa, "not knowing when they may have a home built or assigned, nor the location of their small plot of land where their unbuilt house would rest."[343]

## Displacement and Data Gaps

Displacement is a common form of disaster risk in the Pacific. Understanding the scale and pattern and impacts of existing displacement is critical to designing effective disaster risk reduction activities. Yet, there is currently no central systemised information repository of disaster displacement**.** This creates issues for policy. If the scale of displacement is not understood, it is difficult to develop effective policy or finance actions to reduce its likelihood or minimise its impacts when it occurs.

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[340] IDMC (2022e) Pacific Response to Disaster Displacement, Urban Case Study: Ba Town Fiji. Website. https://www.internal-displacement.org/publications/pacific-response-to-disaster-displacement-urban-case-study-ba-town-fiji/ and IDMC (2022f) Pacific Response to Disaster Displacement, Urban Case Study: Port Vila Vanuatu https://www.internal-displacement.org/publications/pacific-response-to-disaster-displacement-urban-case-study-port-vila-vanuatu/

[341] Some 77.2 % of survey respondents had been displaced more than once, with 20.5 % reporting having been displaced three times or more. In Ba, 94% of respondents reporting being displaced more than once.

[342] In Ba, approximately 75% of survey respondents were displaced less than a week during their most recent displacement, with a 23.3% were displaced for up to three months. Only 1.3% (four respondents) were displaced for three months or more. In Port Vila, nearly 90 % of survey respondents were displaced less than a week during their most recent displacement, with 9.1% displaced for up to three months. Only 1.6 % (four respondents) were displaced for three months or more.

[343] Vaioleti, L., et al. (2024). Case Studies: *'Atataa, 'Atataa Si'i* 1.

The Disaster Inventory System – DesInventar – developed by UNDRR, UNDP and partners is being replaced with a new hazardous event and disaster losses and damages tracking system. The new system will be synergised with the WMO-approved Cataloguing Hazardous Event (CHE) methodology, linking "weather observations and hazardous events with related impacts/ losses and damages information and their cascading impacts."[344]

SPC is working with UNOCHA to use secondary sources to get a proxy measure of displacement. Figures may be skewed by inclusion of short-term (survival) evacuations, which, while a form of displacement, are often of very short spatial and temporal dimension (such as evacuation to the village hall or church overnight), and the impacts are comparatively negligible. In respect to higher risks to livelihood and wellbeing, survival evacuations can be contrasted with more sustained movement away from home lasting many days or weeks, and even more so from protracted movement lasting many month or years,.

## Migration

There has already been extensive reference in various types of voluntary migration in the sections dealing with the Diverse Pacific and the Connected Pacific. To avoid repetition of material relating to what census data tells us about the variable patterns, scales and impacts of urbanisation and transnationalism in Pacific populations that are covered in those sections, attention is focussed here on three current issues:

1. circulation as a dominant feature of pattern;
2. the scale, patterns and impact of temporary migration linked with immigration policy initiatives in Aotearoa New Zealand and Australia since 2007;
3. the scale and pattern of intra-Pacific mobility to meet specific labour demands in Pacific countries; and
4. the scale and pattern of voluntary migration that can be identified as being a response to the impacts of climate change.

### Migration as short- and long-term circulation

Reflecting the discussion in the preceding section, a core feature of current pattern is circular migration – circulation. Not all movement is circular; there are always some people who never return. Nor is it suggested that 'returns' to some other place are long term, let alone permanent. But, the research demonstrates that intergenerational mobility over time occurs across multiple places, including more than one place that might be regarded as "home" at any one time.

One of the challenges with the census definition of "place of usual residence" is that "usual residence" is frequently defined as the place where you have spent at least six months in residence. People who end up staying in particular places for education, medical treatment, employment or while caring for family members in that place will be classified as "migrants" in a census even if they have no intention of staying in those places long term or permanently. The fact that people can move multiple times in response to a wide range of what are often called "push" and "pull" factors makes migration a very complex process to model and forecast.

Research on population movement in Pacific contexts has frequently placed emphasis on circularity in movement patterns rather than the more common focus on flows between particular types of origin and destination places. The circular mobility literature privileges the connections people have at any one time

[344] UNDRR (2024) Disaster losses and damages tracking system. Website. https://www.undrr.org/disaster-losses-and-damages-tracking-system

with multiple places, often because of the distribution of immediate as well as extended family members, but also because of histories of their previous mobility and the places where they have particular economic, cultural or emotional attachments.

These attachments, which are well illustrated by the research, lie at the heart of research by indigenous as well as expatriate scholars on circular mobility that has been particularly prevalent in the western Pacific.[345] **The research which underpins this report, using methodologies anchored in indigenous ways of understanding relationships between people and place, has made it very clear that when population movement is viewed through an intergenerational or a multigenerational lens, circulation between places, rather than migration from one location to another, remains the dominant form of movement**.

The daily circulation of people away from and back to the place of residence associated with their everyday lives in villages and towns within Pacific countries, as well as in places of residence in other countries, is the most obvious form of voluntary circular mobility. Closely linked with this everyday movement are less frequent circuits, often associated with particular types of economic and social activity, most commonly within countries, but also to other places that are separated by the invisible boundaries between countries in the Pacific that are a legacy of colonialism in the region.

These invisible boundaries created an artificial separation between places that were often much more closely connected before European colonisation; something that the late Epeli Hau'ofa highlighted in his insightful essays challenging western conceptions of space and time in the interpretation of Pacific societies, economies and environments.[346] The intergenerational approach to understanding contemporary Pacific mobility that has been adopted in one form or another by the three research teams continues this challenge to western ways of conceptualising population movement and its place in the lives of Pacific peoples.

## Temporary labour migration schemes

A series of temporary labour migration schemes that were initiated in Aotearoa New Zealand and Australia from 2007, and which are referred to in various outputs from the three research teams, have arguably had more impact on voluntary migration to overseas destinations in all of the participating Pacific countries than any other policy initiatives affecting the scale and pattern of migration in the region in recent years.[347]

The three schemes are: Aotearoa New Zealand's Recognised Seasonal Employer (RSE) scheme which commenced in 2007, Australia's Seasonal Worker Program (SWP) which was piloted between 2009 and 2012 and then implemented in 2012, and Australia's Pacific Labour Scheme (PLS) which was piloted between 2016 and 2018 and implemented in 2019. Since 2019 the SWP and PLS have been managed under the Pacific Australia Labour Mobility (PALM) scheme. A recent study has established that more than 50,000 individuals from participating countries worked at least once on the RSE scheme – more than the combined total of Pacific participants in all of the temporary work schemes for Pacific peoples between the early 1970s and the late 2000s that had operated in Aotearoa New Zealand.[348]

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[345] See, for example, the essays in Murray Chapman and Mansell Prothero (eds)(1985) *Circulation in Population Movement: Substance and Concepts from the Melanesian Case*, London: Routledge Kegan Paul.

[346] See, for example, the collection of selected works in Epeli Hau'ofa (2008) *We are the Ocean*, Honolulu: University of Hawai'i Press.

[347] All of countries in the western Pacific and central Pacific clusters are participants in these schemes along with Samoa and Tonga in the eastern Pacific. The Realm countries and American Samoa in the eastern Pacific are not part of the schemes, and neither are countries in the northern Pacific.

[348] Establishing the actual numbers of people involved in these schemes is not straight-forward, but recent research makes reference to reaching the 50,000 milestone in numbers of individuals participating in the RSE scheme around mid-2023. See Bedford, R. and Bedford, C. (2024) The RSE after 16 years: a milestone, a stocktake and a forecast. Report for the Pacific Migration Unit, Ministry of Business, Innovation and Employment (MBIE). Accessible at: https://www.researchgate.net/publication/379226878_The_RSE_after_16_years_a_milestone_a_stocktake_and_a_forecast

Data are not available to determine how many *individuals* as distinct from annual *arrivals* have participated in the SWP and PLS schemes since their inception. However, as can be seen from Figure 14, there have been more visas issued to arrivals in Australia for participation in these schemes since 2021 than arrivals on RSE visas in Aotearoa New Zealand.

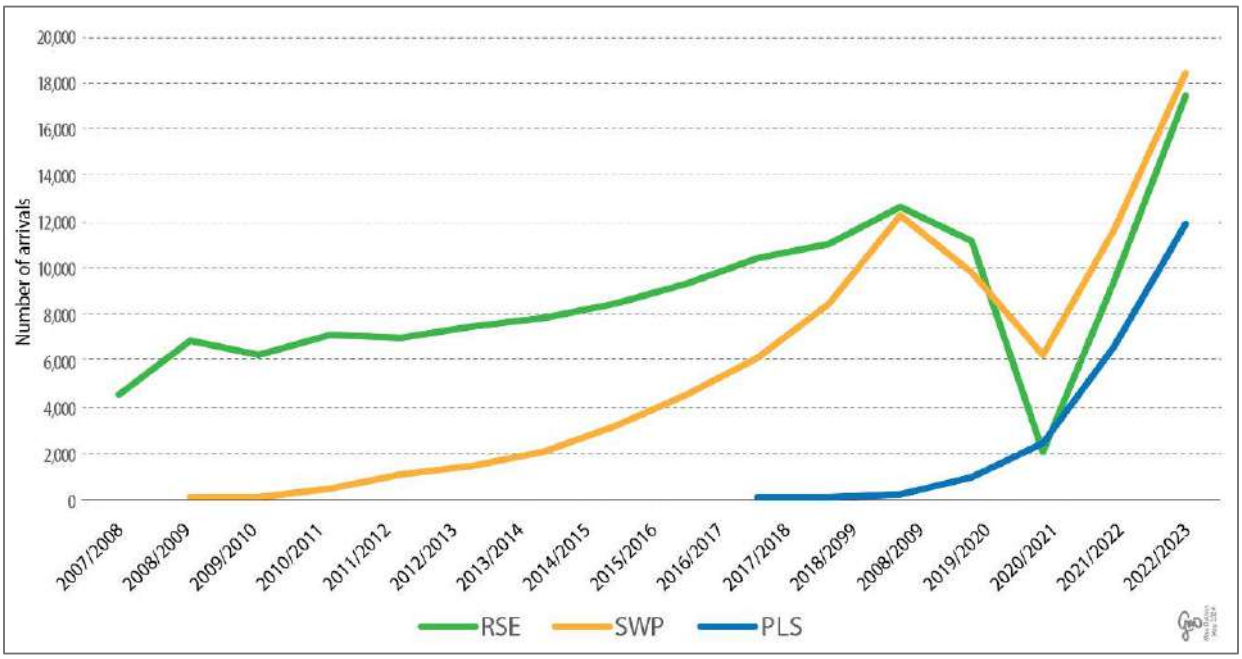


***Figure 14: Annual arrivals of RSE, SWP and PLS workers, 1 July 2007-30 June 2023***

The large dips in the numbers arriving between 2019/20 and 2022/23 are the result of border closures throughout the region during the COVID 19 pandemic. For all three visa categories – RSE, SWP and PLS -- numbers arriving or approved were at record levels in 2022/23.

It is worth noting that there are no country quotas for temporary migration, just the overall cap on total recruits in the case of the RSE. The quotas apply to the PAC and are for residence visas. The swift rise post COVID –19 is just a return to the situation pre-COVID but with some increases because the cap was higher. Vanuatu has always had a significant share of RSE numbers – the post-COVID situation is not unusual in this regard.

The numbers arriving from specific countries in 2022/23, the last year for which visa arrival data are available, are summarised by scheme in Figure 15.

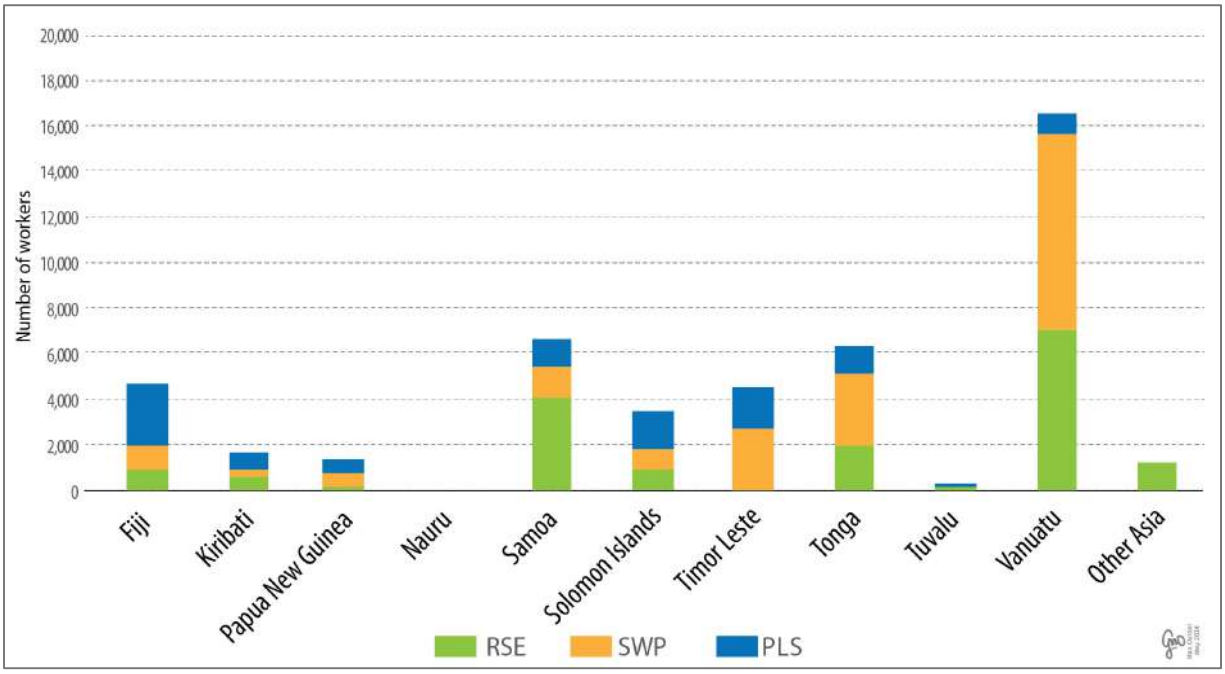


***Figure 15: Sources of RSE, SWP and PLS workers, 2022/23***

On the basis of these findings it is estimated that over 100,000 men and women from countries in the Pacific have participated in the three schemes since their inception. Vanuatu has been by far the largest contributor of temporary workers to the two seasonal schemes in both countries, followed by Samoa (particularly the RSE) and Tonga (especially the SWP).

In the year ended 30 June 2023 Vanuatu provided over 16,000 seasonal workers to the RSE and SWP schemes (34% of the 48,000 that arrived in Aotearoa New Zealand and Australia in that year) – the equivalent of 11.5% of the country's population aged between 20 and 59 years.[349] When account is taken of the strong bias towards recruitment of men for seasonal work this percentage rises to 20% of Vanuatu's men aged 20-59 in the country's census population for 2021.

Samoa and Tonga contributed a further 10,500 RSE and SWP workers between them in 2022/23 , accounting for 27% of the 48,000 arrivals in the two countries. In the case of Tonga the shares of their population aged 20-59 years (11%) and men in that age group (20%) who were absent in that year on seasonal work visas in the two countries were virtually the same as in Vanuatu. In Samoa's case the absences on seasonal work accounted for smaller shares of their total (6%) and male (11%) populations aged 20-59 years, levels of engagement that were attracting the attention of the Samoan Government.

During the second half of 2022 the governments of Samoa, Tonga and Vanuatu initiated reviews of their participation in the temporary work schemes in response to pressure from local businesses that were losing their skilled staff to much higher-paying temporary work overseas.[350] In the other source countries, the

[349] Data on participation in the two seasonal work schemes and in Australia's longer-term Pacific Labour Scheme come from Bedford, R. and Bedford, C. (2023) Staying ahead of the game: the RSE and PALM schemes, 2022/23. Paper presented at the RSE Conference 2023, Christchurch, 1-2 August 2023. https://www.researchgate.net/publication/375992616_Staying_ahead_of_the_game_the_RSE_and_PALM_scheme_202223

[350] See, in the case of Samoa, Sharman, E. and Bedford, C. (2023) Samoa's shifting seasonal work priorities. *DevPolicy Blog*, Canberra; Development Policy Centre, Australian National University, 17 November 2023. https://devpolicy.org/samoas-shifting-seasonal-work-priorities-20231117/ The Vanuatu Government commenced a review of their Seasonal Employment Act of 2007 and their 2019 National Labour Mobility Policy towards the end of 2022 and in March 2023 announced the introduction of an Emergency Employment Visa allowing at least 1,500 foreign workers to enter Vanuatu to fill labour shortages in the country's private sector (https://www.dailypost.vu/news/emergency-employment-visa-order-signed/article_b50d2857-9f69-5e29-894b-a3269be38954.html. The Tongan Government, with the support of the PACER Plus Implementation Unit (PPIU) in Samoa, commenced a major review of its

numbers involved in the seasonal work schemes were much smaller and comprised much smaller shares of their working age populations. This was especially the case in Papua New Guinea, Solomon Islands and Fiji where absences for seasonal work each year accounted for less that 0.5% of their populations aged 20-59 years.

## Community perceptions of impacts

In terms of current scale and pattern, Aotearoa New Zealand's RSE scheme and the two programmes (SWP, PLS) managed by Australia's PALM scheme are having quite variable impacts in the countries where the three research teams conducted their inquiries. Some of the negative social impacts these temporary labour migration programmes are having on families and communities in Tonga and Samoa have been noted.[351] In both countries, the research has found that the schemes had reduced the long term social resilience of families and communities to future stressors, such as progressive climate change. With regard to Samoa, for example, they noted, "Many spoke to concerns about the lack of cultivation of existing (land) assets, and the impact of having many in overseas seasonal work schemes for 'short term gain' was seen as being actively corrosive for longer term resilience potential for Samoa and Samoans."[352]

In contrast, comments on the temporary labour migration schemes in the community and multigenerational family studies in Kiribati, Tuvalu, Solomon Islands and Papua New Guinea, these tended to be more positive, emphasizing the support that remittances by absentee workers were providing to families, especially those who had moved recently because of adverse impacts of climate change. The following statement in the report on the mobility of a family from Maiana is instructive in this regard:

> In this study, families were moving for economic reasons, to ultimately support their families. They first moved to Tarawa, Kiritimati and Nauru, but today they are working in New Zealand. Families maintain ties across borders, supporting each other emotionally and financially. Family members working abroad often send remittances back to their families in Kiribati. Because of limited resources and the impacts of climate change, they now focus on climate change adaptation. The money they save or send home is not just for livelihood but for housing with catchment, water tanks and permanent house above the ground. There are three women from this family working in New Zealand to help support their families on Tarawa. These financial contributions provide crucial support for households, helping them cope with economic challenges, climate change impacts and enhancing their ability to withstand external pressures. [353]

A common point that emerges is the impact that labour mobility is having on the attitudes of workers when they return to their communities in Tonga and Kiribati. Prominent Tongan journalist Dr Kalafi Moala, when commenting on how participants in in the seasonal work schemes often appeared disoriented on return with little purpose in their lives, noted:

> *People if they were out walking [in the past] were always going somewhere with purpose – like to the plantation to work. Now you see people just out walking, you stop and ask them where they are going and they say 'just over there', but there is nowhere.* [354]

Kalafi observed that sending so many, mostly young men, overseas for extended periods has created psychological harm reflected in reported loneliness and increased use of alcohol and drugs. More broadly,

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labour supply management strategies in November 2022 and the relevant report can be accessed at: https://www.mted.gov.to/wp-content/uploads/2023/07/FINAL_Final-TLMSMS_23-March-20231.pdf.

[351] See Vaiolei, L. et al. (2024, 41-43 (Tonga). 71-72 (Samoa). for comments on adverse social impacts of these schemes.

[352] Ibid, 71.

[353] Alofa, P. (2024). 9.

[354] Cited in Vaioleti, L. et al. (2024). 42.

the absence of so many young men has created fractures in the family unit leading to higher levels of school truancy and marriage break ups.[355]

In the study of Maiana, one of the participants observed with regard to young people that Kiribati now had a new normal. In his words this was:

> *Te taneaia ae boou / Te tareboon / Te nangkona / Te matu / Te taningaroti / Te raraun* [The new normal / The mobile phone / The kava / The sleeping / The laziness / The wasting of time] [356]

Without doubt, temporary labour migration overseas, as well as migration from villages to towns in Pacific countries is having a range of positive and negative impacts on families and communities. These impacts are not specific to mobility, however. They are also reflective of more general social changes taking place across the region, especially in towns, and the comment cited above could have been made by community leaders and others in all of the in-scope countries where participants were interviewed.

## Intra-Pacific migration

The scale and pattern of intra-Pacific migration is an area of particular interest to the PACER Plus Labour Mobility Unit given that one of the objectives of the Arrangement on Labour Mobility (ALM), that sits on the side of the Pacific Agreement on Closer Economic Relations (PACER) Plus, is "to facilitate the temporary circulation of temporary workers amongst the Participants".[357]

One of the reasons for this is the differential impacts of voluntary migration to countries on the Pacific rim on the availability of skilled labour in their domestic labour forces to meet the needs of particular sectors of the economy and, in the Realm countries especially, the needs of ageing populations. Intra-Pacific migration is more extensive than often appreciated given the attention researchers have placed on migration from PICTs to countries on the Pacific rim and in other parts of the world. The international migration data bases compiled by the UN and the World Bank, showing the distribution of people born in each country across all other countries around 2019, revealed that 71,780 (22%) of the 232,000 overseas-born in-migrants in the 21 PICTs had been born in other countries in the region.[358]

Intra-Pacific migration was especially significant in terms of the shares of overseas-born in-migrants in Wallis and Futuna (91%), Kiribati (76%), American Samoa (69%) and Tokelau (56%). The small overseas-born population in Wallis and Futuna is a mix of children born to migrant parents from these islands who had been working in New Caledonia's nickel industry and spouses born in other parts of the region. In the case of Kiribati, the overseas-born Pacific migrants were mainly from Nauru – either I-Kiribati born in Nauru when their parents were employed there in the phosphate industry, or spouses of I-Kiribati men and women who had married Nauruans while living there.

In American Samoa, it was Samoans from their larger western neighbour and other Polynesians who had moved to Pago Pago for employment, mainly in the fish processing and canning industry, and children who had been born in Samoa to spouses of American Samoans. Most of the small number of overseas-born in-migrants to Tokelau from other Pacific countries were children who had been born in Samoa's hospital. There

[355] Idem.
[356] Cited in Alofa, P. (2024). 8.
[357] See Key Objectives (Paragraph 3(e), Arrangement on Labour Mobility, accessed at: https://www.mfat.govt.nz/assets/Trade-agreements/PACER-Plus/arrangement-on-labour-mobility.pdf
[358] An assessment of these data on intra-Pacific migration can be found in the University of Auckland team's reports on population dynamics (Bedford, R. et al. (2023a). 62-66; Bedford, R. et al. (2023b) 14-15.

is no hospital in Tokelau. The close links between Samoa and Tokelau are discussed in the family study of Kāiga Atafu and the community studies in Atafu, Fakaofo and Nukunonu.[359]

These four examples illustrate two of the key groups that can be identified in the flows into Pacific countries from other Pacific countries. The first is people born in hospitals in other Pacific countries. The second is linked with flows of labour into major industries in selected countries: although it should be noted that the country with the largest extractive industry base in the region, Papua New Guinea, had very small in-migrant flows from other Pacific countries. Only 1.8% of its in-migrants had been born in other Pacific countries with Fiji and Solomon Islands being the major sources. The major flows into Papua New Guinea were from Australia and Asia.

There are two other groups in the intra-Pacific flows of people born in Pacific countries. The first is skilled labour from Fiji, especially teachers, medical personnel, security personnel, retailers, seamen and a wide range of people with specialist trade skills.[360] In recent years Fiji has become an important source of labour in the tourism and domestic are industries in some countries, especially Cook Islands and Samoa. Contributing to their supply of skilled migrants is the Fiji Volunteer Scheme for retired professionals that was introduced in 2009. This scheme has been an important source of teachers in several countries in the central, eastern and northern Pacific. Burson et al. (2021, 45) note that 14 of the 21 potential PICT destinations had Fiji-born residents in their populations around 2019.

The other important group of overseas-born in-migrants in selected Pacific countries includes members of resettled communities from Kiribati and Tuvalu in Fiji, Solomon Islands and Niue. The resettled communities in Fiji were discussed briefly in the review of the central Pacific cluster in the Diverse Pacific section. In the Solomon Islands the resettled communities were I-Kiribati who were required by the colonial administration to move to sites in the country's Western Province in the 1960s because of water shortages in the Phoenix Islands, where they had initially been resettled from the southern Gilbert Islands.

The resettlement schemes involving I-Kiribati have been the subject of considerable research both around the time they were initiated as well as in recent years.[361] They were not the subject of any specific community or multigenerational family studies for the current project, although the case study of Takaeang on Aranuka in Kiribati does make reference to the Phoenix Islands Resettlement Scheme because Aranuka was also an island that was considered to be a suitable site for resettlement of I-Kiribati from the drought-prone southern islands in the 1950s and 1960s.[362]

The community-led voluntary resettlement of Tuvaluans from Niutao in Vaiea on Niue was the subject of community case studies both in Tuvalu and on Niue.[363] Niutao is a small, low-lying coral island in Tuvalu with an enclosed lagoon. Some families from Niutao relocated to the village of Vaiea on Niue in the mid-1990s. They note that:[364]

> This took place when former Tuvalu Governor General, Sir Toomu Sione, made an agreement with former Niue Premier and Member of Parliament, Young Vivian, who was reported as having family ties. Some community members in the workshops recalled discussions with Sir Toomu Sione about moving but had decided to remain. Families from Niutao shared that some of their family members did not stay in Vaiea; some returned to Tuvalu while others moved to

[359] See Toloa T. and Toloa L.(2024), Ng Shiu, R. et al. (2024e).
[360] For further information on the role of Fiji as a prominent source of skilled migrants for countries in the central and eastern Pacific clusters especially see ILO (2019) *Labour mobility in Pacific Island countries.* ILO Office for Pacific Island Countries, Suva. 20.
[361] For a recent review, see Campbell, J.C. (2022) Climate change, population mobility and relocation in Oceania. Part II: Origins, destinations and community relocation, *Policy Brief No. 132*, Toda Peace Foundation.
[362] See Ng Shiu, R. et al. (2024d).7.
[363] See Newport, T. et al. (2024f) for the case study on Vaiea and Ng Shiu, R. et al. (2024g) for the case study on Niutao.
[364] Ng Shiu, R. et al. (2024g). 7.

New Zealand once they were eligible. Some of those who remain in Vaiea have intermarried into the Niue community and have had children.

There is no explicit reference to climate change being a reason for the decision to seek a new home in Niue, but the research team do note that saltwater intrusion in the swamps where their traditional root crop, pulaka, was grown was becoming an increasing problem in the 1990s and early 2000s. Participants in workshops for Niutao migrants in Funafuti observed that increasing salinity of the swamps had prompted their migration:[365]

> *For me the reason why I would support migration, if we take this crop named pulaka, before it is very hard to die but as time went on to around 2002 it started becoming affected from underneath the swamp. Then they started to die off. Time went on, there were completely no pulaka under the swamp. Now there is no pulaka swamp. Now it is all dead. (Member of men's community workshop).*

The community study in Vaiea also noted that the move by Niutao residents to Niue in 1996 was not specifically related to climate change – it was linked to a move by the Niuean Government to encourage immigration from places where they had ancestral connections because of the extensive out-migration of Niueans to Aotearoa New Zealand. Tin this study, the University of Auckland note that:[366]

> Over time Vaiae community members have left and moved to Aotearoa New Zealand and Australia. At its lowest, a community member recalled *there were only six true Vaiea people remaining.* At this time, Vaiea was considered all but abandoned. In 1996, because of this mass exodus, Niuean government leaders and village leaders from Niutao in Tuvalu and Vaiea agreed to provide opportunities for the Niutao families to come to Niue as a means to alleviate the declining population. Such an agreement was considered agreeable because there is an ancesatral tie between the Niutao descendants from the villages of Avatele and Hakupu and Vaiea.

The PACER Plus Implementation Unit is in the process of preparing an Intra-Pacific Labour Mobility Strategy to address labour shortages in Niue and Cook Islands.[367] A key challenge facing the governments of both countries is the ageing of their populations and the shortages of personnel to provide support for the older members of their communities. The community studies in Pukapuka and Vaima'anga in the Cook Islands and the West Coast communities in Niue made reference to labour shortages in key public services and domestic industries.[368]

The Unit is also working with the Solomon Islands government on a labour mobility strategy as this country becomes an increasingly important source of trained nurses for other PICTs, especially neighbouring Vanuatu.[369] Contributing to these shortages of skilled labour in domestic labour forces in an increasing number of Pacific countries is participation in the RSE, SWP and PLS schemes. As noted earlier, Vanuatu has introduced its own temporary visa to fill critical gaps in its domestic labour market.

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[365] Ibid. 7-8.

[366] Newport, C. et al. (2024f). 6.

[367] See PPIU's PACER Plus e newsletter for March-April 2023 where several schemes to enhance Pacific labour mobility for sustainable development are outlined, including the intra-Pacific labour mobility strategy for Cook Islands and Niue. Available at: https://pacerplusimplementationunit.cmail19.com/t/y-e-plhuuhk-ikkrluelh-a

[368] See Newport, C. et al. (2024d, 2024e, 2024g).

[369] See Roberts, A. (2024) More Solomons nurses arrive, 414 vacancies yet to fill. *Vanuatu Daily Post*, 17 May 2024. Accessed at: https://www.dailypost.vu/news/more-solomon-nurses-arrive-414-vacancies-yet-to-fill/article_46070e24-2cd6-533b-b99b-0b86fe138d9a.html

Tracking the circulation of labour between Pacific countries is being compromised by a trend towards publishing less information on the birthplaces of the populations enumerated in censuses. This issue is discussed in the reports on population dynamics and is raised in the final section of this report that addresses policy implications of findings from the MFAT-funded research on climate (im)mobility.

## Migration as a response to climate change

Population movement within Pacific countries and to overseas destinations, that is directly linked with anticipated or actual events or changes in the environment associated with climate change, has been a reality in parts of the region for at least two decades now. There is a very extensive literature on the implications of global warming for Pacific peoples and places and evidence that changes linked with this process has been having a direct effect on voluntary migration decisions by individuals, families and communities is presented in reports.[370] This evidence is reviewed extensively in other sections in this report but it is useful in concluding these comments on the current scale, pattern and impact of voluntary migration to make reference to some of findings about recent migration in Tonga and Samoa that emerged from the surveys in those two countries.

The insights gained about current and future climate (im)mobility of Tongans and Samoans merit careful consideration by policy makers, especially with regard to differences in perspectives and responses that were provided by participants from the two countries. There are some novel findings in their research relating to emerging patterns of voluntary mobility linked with climate change. One of these is 'dual focus mobility' which involves an extensive period of residence overseas, typically in Aotearoa New Zealand, earning money to fund purchases of land and building of houses on higher ground on another island in Tonga, or away from coastal areas to inland areas or away from low-lying urban areas to relatively elevated areas, when they return.[371] This period overseas served the purpose of accumulating necessary funds to pay for the land and/or the relocation of the family home (i.e., there was a dual focus on both international and internal mobility – one being the means to the end) to effectively build a new life back in Tonga on return.

**It is clear from the in-country surveys in Samoa and Tonga that climate change is influencing current mobility decisions.** These revealed that 7% of the Tongans surveyed and 6% of the Samoans surveyed reported that 'escaping the impacts of climate change' was the top reason given for planned mobility in the coming five years.[372] These percentages represented, respectively, 39% and 33% of the respondents who had plans to move. The other 60+% with plans to move in the near future did not mention climate change could be one of the factors influencing these voluntary migration plans.

A key finding is that climate change is likely to result in significant numbers of Tongans and Samoans moving internally as well as to overseas destinations during the coming decades. Further, the data in the surveys seemed to back up findings from talanoa that there was this link between plans for internal climate mobility and plans for overseas mobility - data showed that a higher proportion (than the total sample) of those planning internal mobility due to climate change were also planning overseas mobility. Results from the survey and scenario building exercises are discussed further in the next section with reference to the future scale and pattern of voluntary migration in the region.

In concluding these brief comments on voluntary migration linked with recent disruptive changes in environments an observation by Samoan historian, Damon Salesa, about the Hunga Tonga-Hunga Ha'apai eruption is instructive. It captures the essence of one of the major contributions that the three research teams have collectively made to widening our understanding of climate (im)mobility in the Pacific.[373]

[370] Two papers by John Campbell published in 2022 in the Toda Peace Institute's Policy Brief series, contain very useful reviews of the literature on climate change and (im)mobility in the Pacific. Details can be found in the references for this report.
[371] Vaioleti, L. et al. (2024). 16
[372] Vaioleti, L. et al. (2023b). 5.
[373] Salesa, D. (2024) *An Indigenous Ocean. Pacific Essays*. Wellington: Bridget Williams Books. 27.

With the right proximity or sensitivity, the right ear or lens, you can understand both the local and the global impact of a local event in Tonga. But you also don't need to. It is enough to understand these and other events in the Pacific on their own terms, in their own ways and tongues. But there is something to be said for being able to comprehend how this eruption, like the indigenous Pacific, straddles multiple scales, and requires more than a single way of seeing or hearing in order to recognise it and understand it.

# Relocation

## State-led relocation

We have already highlighted how historical relocation has contributed to the overseas born population in some Pacific countries. The research highlights state-led relocation in the colonial and independence eras beyond the oft-cited relocation of the Banaban population. It documents that the people of Leauva'a (people of the boat/canoe) were relocated by German colonial administration from their villages on the island of Savai'i to Upolu following the eruption of Mount Matavanu in 1905.[374] It also notes the 1977 government-led relocation of families from three villages the Weathercoast of Guadalcanal inland to Aruligo, onto land the colonial government purchased from the Guadalcanal traditional landowners but later made available for families to relocate. Although only five families moved originally, the current population is around 4,000 people.[375] Also examined is the 1994 relocation in Matupit.

Currently, attention is, rightly, focussed on the state-led process of planned relocation being undertaken by the Government of Fiji. By way of context the goverement of Fiji has noted evidence inficating that the rate of sea level rise in the Southwestern Pacific is 2-3 times the global average; some 27 per cent of the population lives up to 1km from the coast with 76 per cent of the population lives within 5km of the coast. A recent assessment had suggested that – without action – approximately 4.5% of all existing buildings on Fiji will be inundated by 2050 under a highly likely sea level rise of 0.22m and 6.2% by 2100 based on an expected experienced sea level rise of 0.63m.[376]

As early as 2014, the Government of Fiji had indicated that 676 coastal communities needed relocation based on projected climate impacts, of which 42 were expected to require relocation "in this decade, with 17 [at the time] considered as prioritized for relocation as soon as possible".[377]

National-level response is characterised by the development of a dense and integrated legal, policy, operational and financial framework. Led by the Climate Change and International Cooperation Division of the Ministry of Economy, in collaboration with the Deutsche Gesellschaft fur Internationale Zusammenarbeit GmbH (GIZ) and drawing on financial support from GIZ and MFAT, the with Government of Fiji has:

- Adopted Planned Relocation Guidelines A Framework to Undertake Climate Change Related Relocation (2018).
- Established a Climate Relocation of Communities Trust Fund (2019).
- Enacted a Climate Change Act which legislates the "organization, governance, and execution of planned relocation as a means to address loss and damage and enable adaptation" (2021).[378]

[374] Vaioleti, L., et al. (2024). *Case Study People of Leauva'a*.
[375] Underhill-Sem, Y. et al. (2024f).
[376] Government of Fiji Case Study: The Development of Fiji's National Planned Relocation Arrangements and Associated Financing Mechanism ( 25 April 2023). 3. https://unfccc.int/sites/default/files/resource/casestudy_fiji_relocation_financingmechanism.pdf
[377] Idem. 3.
[378] Idem.

- Established and stood-up under the authority of the Climate Change Act, the intra-governmental Fijian Taskforce on the Relocation and Displacement of Communities Vulnerable to the Impacts of Climate Change (2021).
- Mandated the use of the Climate Relocation of Communities Trust fund to support relocation efforts in Fiji (2021).
- Developed a comprehensive set of 'Standard Operating Procedures for Relocation' (2023).
- Developed Financial Management Policy Guidelines for the operation of the Climate Relocation Trust Fund (2023).

While the current scale of relocation in Fiji is difficult to gauge with accuracy, relocation processes are underway, including at least one community-led relocation being implemented by a civil society organisation.[379] Attention is turning to how the processes and outcomes of that programme can be improved, adapted and scaled up as required. [380] As will be discussed in the next section, the extent to which other PICTs replicate this initiative will be a significant factor in shaping future scales and patterns of (im)mobility.

Looking beyond the example of Fiji, the research in Tonga in the wake of the 2022 eruption, draws attention to how state-led relocation remains a feature of current patterns, particularly in the context of geophysical hazards. The research evidences there was significant leadership, influence, enablement by the Royal Estate in this exercise, including the provision of land for new villages, plantations and vehicles.

## Community-led relocation

Community-led relocation due to environmental changes has been part of Pacific everyday action, and the research of all teams has shed further valuable light on the scale of household and community-led relocation.

The research notes this has been a structural feature of pattern in pre and post-colonial eras. For example, the University of Auckland document how some people from Luaniua in Ontong Java migrated to Honiara between the 1940s and 1960s, eventually establishing the Lord Howe settlement. Several factors contributed to this migration including limited resources and space available on the small island of Luaniu.[381]

Community discussions around whether to relocate continue. In some communities, albeit technically staying in place, internal movement of some in the community has become necessary for safety. The research documents this emerging pattern in Bareho, Papae/Kolosulu, (Solomon Islands) and in Pukupuka and Vaimaanga (Cook Islands), where, due to the impacts of climate change, families have begun moving to different parts of their respective villages and settlements. In Managalas, Papua New Guinea, they have also discussed plans of relocating within their own settlement:

> In the case of a drought, the decision would be made to move women and children closer to the rivers or the bushes where there is food. Moving out of the land would not be a good decision. It is safer to remain in an environment they know and have food to eat. (Managalas, community member)[382]

In Bareho, household level relocation due to sea-level rise and increasing population on Bareho Island has already begun. The chief has made available a few hectares of land on the mainland for those who want to move, where they can build their houses and for gardening. Some families have already moved.[383]

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[379] See discussion in *Regional Talanoa on Climate Induced Planned Relocation* , 5 October 2023 At https://fijiclimatechangeportal.gov.fj/wp-content/uploads/2023/11/Report_Regional_Talanoa_05Oct_Final.pdf
[380] Idem.
[381] Underhill-Sem, Y. et al. (2024h). 2.
[382] Ng Shiu, R. et al. (2024). 28.
[383] Underhill-Sem, Y. et al. (2024g). 6.

At the household level, the research documents the practice of building second homes or shelter on inland plantation sites to reduce risk from coastal hazards. For example, the family study on Tuvalu highlights how a kaupaapaa (a wooden shelter with open doors) has been built in the island's interior. This "second home" will protect the family from the immediate effects of natural disasters because the effects of the waves will be neutralised when they reach the ponds adjacent to the second home.[384]

In the Tongan context, it is common for families with tax allotments to have at least a shack built there for shelter, altough these are typically not fully stand-alone residences. A participant in women's workshop in Tongatapu disclosed plans to build a house inland on their plantation and to rent out their coastal home, while in a different talanoa discussing resilience, a participant discussed their family's decision to have an additional house built inland on their tax allotment/plantation land "for the explicit reason of having an alternative place to move to or shelter in should there be an environmental event that required it".[385] However, not all families have tax allotments, including many living in Tongatapu.

**Self-resettlement – a form of circulation in the relocation context – is an established feature of current pattern**. In Tonga this is happening, not just in relation to some Mango relocations following the 2022 Hunga Tonga-Hunga Ha'apai eruption, but also with the kāinga Niuafo'ou evacuated from the volcanic eruption in 1946, and Niuatoputapu resettlement after the 2009 tsunami. In each instance, "people returned to their traditional homeland."[386]

Other research confirms circulation/resettlement as a feature of pattern connected to relocation as form of mobility. For example, the community study on Matupit notes that, almost 30 years after being relocated following a volcanic eruption, people are returning to Matupit and remaking their home, albeit close to the still active volcanoes, because "life on resettlement blocks is often fraught with tensions."[387]

The research also shows that community-level relocation can feature circular mobility. For example, the Kwakwaru people who originally migrated from Gaita to Kwai Island in the early 1900s have, since 2018, been in discission with kin in Gaita (and kin now living in Honiara) about relocating back to Gaita due to coastal erosion on Kwai. Many meetings were conducted in a spirit of togetherness, with discussions "concerning genealogies, land boundaries, tribal affiliation with neighbouring tribes and identifying important landmarks". While a slow process, discussions (tok stori) have led to a site for relocation being identified and allocated on the coast called Kwainiula.[388]

The research in Samoa also reveals anecdotal evidence of households who had moved inland following the 2009 tsunami beginning to return to urban centres on the coast, including for better access to food and links to transport.[389]

[384]Peneta Hauma, T. (2024). 7-8
[385] Vaioleti, L. et al. (2024). 27.
[386] Nailasikau Halatuituia, D. (2024) *Tonga Mango Case Study - Kāinga Mango, Tonga - Pacific Climate Mobility Family Stories Case Study*. Mana Pacific Consultants Ltd. 15.
[387] Underhill-Sem, Y. et al. (2024d). 5.
[388] Filoa, T., (2024). 8.
[389] Vaioleti, L. et al. (2024). 77.

# Impacts

## Conflict and tension

The research conducted in the different Pacific communities highlights a range of tensions and conflicts stemming from environmental, socio-economic, and cultural factors. In Vaimaanga, Cook Islands, the needs to relocate due to climate change has created a tension between staying for traditional land ties and moving for safety. This tension is exacerbated by economic disparities in affording adaptation measures. Concerns over cultural loss due to relocation add another layer of conflict between environmental adaptation and cultural preservation, particularly impacting youth who grapple with preserving their identity amidst climate change impacts.

Modern challenges like land shortages and saltwater intrusion in Bareho village, Solomon Islands, have contributed to tensions related to the rise in overcrowding and emotional losses due to potential relocation. In Funafuti, Tuvalu participants share experiences of tensions arising from urbanisation and population pressure, compounded by climate change impacts on traditional subsistence activities and resource access. Similar conflicts arise in West Coast Communities, Niue, and Nanumaga, Tuvalu where land disputes and water scarcity contribute to community tensions.

What emerges from the research is that land and marine boundary issues are the most common source of conflict, arising regardless of the settlement type.[390] More geography-specific sources of conflict are also present. These concern access to foreshore and the sea for coastal high island settlements, and the pressure of increasing population on some atolls, and in coastal and highland settlements. In several communities "issues around land shortages were seen mostly in regard to population density and increases."[391]

> *At this time, we are having a land dispute among us. Our population was increasing and I am so grateful for the volcanic eruption that reduced the population. However, at this present time there is an increased population. The new couples can't live by their own they are crowded in that same land space with their parents.* (Community Member, Matupit, Papua New Guinea)

A community elder in Aruligo, Solomon Islands recounted:

> *Another changes experience is the increase in population growth. Before in the village there is only less and the community is easy to maintain and control whereas due to population increased today social unrest also increased.*

After referencing over-population and food insecurity as factors, the Nagamito family study noted that 'staying in place' has contributed to a rise in petty crime including theft from gardens, the killing of other people's animals for meat, and starting bushfires that destroy coffee plots and gardens. These activities undermine community cohesion and trust and pose "significant threats to food security, livelihoods and overall safety."[392]

Community-tension arising from the intersection of land tenure and localised population can have an intergenerational element:

> *"Today the new generation hears a lot of argument going on concerning land because they're not properly given the right information. This portion of land here belongs to that Vunatarai and [the*

[390] Newport, C. et al. (2024b).
[391] Ng Shiu, R. et al. (2024). vii.
[392] Steven, H. (2024). 20.

*land] is not given to them. That's the reason why a lot of argument now going on. On top of that, because it is matrilineal, when a man from Matupit goes out of his way to another place Like Karavia or Malaguna, and gets a wife there, his kids consequently will not own any land on Matupit, because their mother is not rom Matupit. Some people are now wary of this tradition and are causing a lot of problems."* (Matupit, Papua New Guinea)

Tensions with host communities can arise when planned relocation occurs. Population expansion over time – localised population in relocation context – is an existing source of tension. The case study on Leauva'a in Samoa notes tension over land boundaries in a village relocated in 1905 in the wake of a volcanic eruption. The relocating families were allocated a block of land to establish a new village for themselves. That allocation passed down, and continues to pass, through bloodlines in a way that runs counter to other village land systems. Tensions have arisen within a neighbouring village who claim the relocated community have built houses and established plantations outside their allotted land.[393]

This case study highlights how community-level research into relocations from the early part of the 20th century provides an important window on issues which may arise over the long- term, in the event of scaled-up planned relocation programmes in the 21st century.

A softer tension between relocated and host communities experienced in Tonga is around expectations following the relocation of people from Mango Island to 'Eua Island in the aftermath of the 2022 Hunga Tonga-Hunga Ha'apai eruption. [394]Members from the host community expressed the following frustrations to the team:

*We prepared plantation land for them, [we] planted them food, all they need to do is harvest [it] but they don't.*

*It's about time they adapt to where they are now – it's been over a year. They need to forget Mango and accept they are in 'Eua now. People are talking about stopping supporting them so much. We will continue to support them as* they are part of our church. If they change churches [though], we might stop then.

For their part, the people from Mango, traditionally fisherfolk, mourn the loss of their skilled livelihoods:

*When in Mango, [the people] were not thinking about going out to the plantation. They were just used to resting then fishing. And when they fish they would catch big fish – tuna and other large fish, [they would] collect lobster. The fish in Mango are different to the ones around 'Eua, and it takes a different technique to catch them.*

*We miss how we used to earn a living from fishing. Because we are here now, I had to plant kava but it will take 3-4 years to mature. [With] fishing, we would have the money straight away. I could have paid the contribution to this house in one month fishing how we used to. Family overseas had to pay that instead.*

This brings into focus the **importance of understanding and supporting traditional governance systems for resolving community-level conflict**. For example, in Managalas settlement in Papua New Guinea, it was remarked:

[393] Vaioleti, L., et al.. (2024). Case Study *Leauva'a – People Of The Boat*.
[394] Vaioleti, L., et al. (2024) Case Study '*Eua*, *Mango-'Eua*.

> *Disputes occasionally arise, but our community has mechanisms to resolve these by revisiting agreements and finding compromises that ensure peaceful cohabitation and resource utilization. However, the rapid surge in population is now causing concerns. This growth might lead to land disputes in the future, despite our existing understanding of boundaries... Despite this, the 38 years of discussions have equipped us with a general understanding of where each clan should be, allowing us to manage our resources efficiently."* (Managalas, Papua New Guinea)

The University of Auckland point out that,

> [s]ome practices passed down through generations explicitly preserve community togetherness and social cohesion and draw on traditional conflict resolution methods to maintain peace and unity. These practices not only reflect cultural values but also build community resilience needed in the face of the multiplying effects of climate change. By building upon traditional mechanisms, policy makers can align with community-led approaches to conflict resolution that are contextually appropriate, culturally sensitive, and environmentally sustainable.[395]

As coastal erosion, sea-level rise, and extreme weather events increasingly threaten traditional ways of life, communities face difficult decisions about relocation, which often leads to internal conflicts. For instance, in the case of Vaimaanga, community members expressed deep concerns about losing cultural identity and traditional land ties due to potential relocation. Similarly, in Niutao, mobility decisions, often made without broad family consultation, have led to gendered and social tensions. Moreover, environmental degradation not only forces physical mobility but also strains resources, exacerbating conflicts over land and marine tenure, as seen in communities like Ambu and Funafuti. These tensions are further complicated by economic disparities, where some can afford protective measures against climate impacts while others cannot, creating disparities within communities.

It is important to note that each community is facing, and/or will face, unique challenges that exacerbate existing societal tensions and create new conflicts as communities navigate the impacts of climate change and other modern pressures.

The examples provided illustrate that tensions and conflicts within these communities are driven by a complex interplay of environmental, economic, social, and cultural factors. Where conflict and tension already exist within a community, climate change impacts are likely to exacerbate the conflict and tension. In the future, further research is needed to explore dimensions of gender, different age cohorts, and vulnerability within the factors that manifest conflict and tension.

## Non-economic loss and damage

The teams' research powerfully documents how employing **a place-based approach to loss and damage** makes very clear the various forms of 'non-economic' loss and damage which have been, and will continue to be, experienced by Pacific communities in the context of disasters and climate change. Summarising how loss and damage is intrinsically connected to the multifaceted nature of place, the University of Auckland observe that,

> understanding climate-im/mobility associated loss and damage requires a fundamental understanding in Pacific terms of sense of place. This is because the attachment to place is more than having a sense of attachment to any place. Rather, in relational terms, connection to place refers to essential cultural, spiritual, multigenerationally layered bonds to place across time and space. The

[395] Newport, C. et al. (2024b). 2.

> loss of cultural alignment, of spiritual balance and relational ties are immensely profound. The critical resources that Pacific communities depend on for their lives and livelihoods are prominently reported as loss of biodiversity, including coral reefs, mangroves, marine life, land-based ecosystems, but cultural and spiritual resources are equally critical such as the ceremonies and rituals, ancestral practices and traditions, language and community elders and spiritual leaders.[396]

Particularly poignant evidence emerges from the case study on Satitoa in Samoa. Satitoa was located at coastal end of their village land before the 2009 tsunami and has subsequently retreated inland to limit their exposure to future tsunami risk. Following the tsunami, a lot of the villagers' ancestors' bones were washed up from the old graveyard.as to this, the University of Waikato record:

> they described how they gathered the bones, washed them and placed them on a bed 'like a funeral'. When they went to put them back into their original graves with prayers, they described how the bones grew heavy *"very heavy, like the weight of a body".* They thought this might mean that they did not want to return to the old graves, but they told them that they must return – that they need to be there to look after the land.[397]

Similar concerns featured among research participants engaged in Niue, reflecting on what moving to upper terraces would mean:

> *They talk about our ancestors being the first victims because what they own gets washed away from sea level rises and storm surges. So, you are losing that connection with those sites that are, you know, they are sacred, they are special places, they are being destroyed that way.*[398]

This Satitoa case study – a community relocation in the wake of a geophysical hazard-related disaster – yields other valuable insights, including around how the impacts of relocation in the context of climate change – positive and negative – may manifest over time. Positives, such as having more space, being closer to plantation sites and having a better school for the children, were counterbalanced by a sense of loss of a way of life:

> Though they used to be in the sea a lot, they don't go to the sea anymore. And even if they lived closer, they say fishing has changed – one needs a boat to get to the fish as the fish have migrated out to deeper waters because of the water temperature.[399]

A further example is highlighted whereby a woman was moved to 'Eua from 'Atataa after the volcanic eruption, but was no longer able to harvest pandanus for weaving.

> *We don't do anything in the hall. I used to weave and earn an income. I could spend a month making a ta'ovala and sell it for TOP$800-1000. There is no land here to grow pandanus, and even if [we were] given access now, it would take a couple of years for it to reach maturity to be able to use it.* [400]

While this case study signals that relocation away from ancestral land and plants threatens important cultural practices and can create non-economic loss, it also shows how the same relocation may lead to economic loss when the relocation site moves people away from their traditional subsistence-based lifestyles:

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[396] Newport, C. et al (2024c). 2.
[397] Vaioleti, L., et al. (2024). Case Study *Satitoa*.
[398] Newport C. et al (2024g) 22-21.
[399] Vaioleti, L., et al. (2024). Case Study *Satitoa*
[400] Vaioleti, L., et al. (2024). Case Study *'Atataa, 'Atataa Si'i*

> *One of the hardest things for people here continues to be income. Having enough money to provide for your kids, your family. In 'Atataa you would pick the produce you grow in the morning then sell it that evening. Here it's very hard now. People are trying to grow small gardens on their small land [around their house]"*[401]

The impacts can be gendered. The research in Tonga heard of the significant social and personal loss women felt with the loss of their koloa. It was a major personal loss for one participant when "*The tsunami just swept it all away".* As to these gendered impacts, the University of Waikato note:

> women have a critical role to play to provide different koloa for different occasions – like weddings, baptisms, birthdays and funerals. For a funeral in New Zealand for example, people will travel to Tonga to collect koloa or people will travel from Tonga to bring back certain koloa. These koloa represent family wealth and many have been passed down to them by many generations past. Women in 'Atataa suddenly being in a position where they could not fulfil that role reportedly affected their sense of self-worth. One woman shared how there was an explicit message sent out that the women of 'Atataa have no obligation to provide koloa for occasions, and that this act was a relief for her and others who carried a degree of shame about the situation.[402]

Community fragmentation following relocation has also featured across the research. This is noted in the research in relation to West Coast communities in Niue, and in relation to 'Atataa in Tonga.

Even the issue of the naming new villages in relocation sites is replete with issues around loss of attachment to place. Mango's new village in 'Eua was named Mango-'Eua, which the research suggests reflected some expectation of integration. For 'Atataa, the local noble wanted their new village to be named Kolovai Si'i, noting how it sits adjacent to the village of Kolovai. The Royal Estate reportedly declined this suggestion, stating '*Atataa is still there, so this is just 'Atataa Si'i."*[403]

The University of Auckland focussed their analysis on non-economic loss and damage. around McNamara et al.'s (2021) typology,[404] and revealed that all communities perceive and/or experience a range of non-economic loss and damage, largely in terms of health, wellbeing as well as biodiversity-linked cultural loss.

> *Traditional boats are rare now because we have no resources to make and pass on knowledge.* (Funafuti, Tuvalu)

> *The natural environment has changed. For example, in the past we used to build vaka from the trees. Those trees are no more. We don't build vaka. Our fishing boats are built with imported materials.* (Pukapuka, Cook Islands) [405]

All of the eight communities that had experienced relocation and displacement experienced non-economic loss and damage in relation to their previous locations. All are experiencing climate change impacts in their new locations with associated non-economic loss and damage, notwithstanding the variance in the typography of each settlement. While highland communities do not have the same relationship to the sea as atoll communities, they nonetheless share deep connections to their lands and waterways to which non-economic loss and damage are attached.

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[401] Ibid.
[402] Vaioleti, L. et al. (2024). 40.
[403] Vaioleti, L., et al. (2024) *Case study Atataa, 'Atataa Si'i.*
[404] This issue is explored in Newport, C. et al. (2024c).
[405] Idem. 26.

The research undertaken demonstrates how lived and anticipated experience of loss and damage informs decisions to both move and to stay in place. People are choosing to remain in place, despite risks, because of concern about economic and non-economic loss and damage. At the same time, staying in place will bring exposure to future loss and damage.

> *We are living with climate change. The impact of climate change can be seen with what it had done with our land, resources, sea, and survival. As a result of costal erosion, there are houses and homes that are in the blink of washed away or got damaged. Some plants and trees are no longer there. They uprooted and got washed away. Primary school buildings are not in good conditions and can be seen that, maybe for another year or less, there will be water everywhere in that place." (St John (Betio), Kiribati)*[406]

**Mobility-related loss of culture, and the traditional structures and practices of everyday life that have served Pacific communities well in the face of past environmental change, featured prominently as a core community concern across the research**. This concern is typified by comments made by participants in workshops led by the University of Auckland in Pukapuka, Cook Islands:

> *We will lose the way we plant, especially the wawa and the way in which we look after our animals. We will lose our crafts such as weaving, making vaka and other carving, because our natural materials will be no more. We will lose our wonderful practice of communal gathering of food and sharing this for all in the community. We will lose the kavekave and all our other practices that are unique to our way of life and to our identity as people of Pukapuka*
>
> *We will lose the essence of every practice that we have that is based on the village (oile), tawa, yolonga, wua and pule. With the loss of everything that is related to our identity and who we are, we will be lost.* [407]

The potential for loss of language over time, as new generations are born abroad within transnationally distributed family groups, also emerged as a concern.

Given the importance of faith in the lives of so many Pacific peoples, it is perhaps unsurprising that the field research in Tonga also revealed a fear of loss of status in Church was a worry for some if they had to relocate elsewhere.

## Psychosocial harm

The relationship between climate mobility and wellbeing in the Pacific region is intricate and multifaceted, as evidenced by various community experiences and discussions. Despite facing environmental challenges, such as fluctuating water temperatures and shoreline erosion, residents often express a sense of resilience and adaptation to changing conditions. However, climate-related impacts, such as increased stress, mental health issues, and domestic violence, underscore the importance of factoring wellbeing considerations into policy concerning both mobility and staying in place.

The research illustrates the complex psychological and social effects stemming from environmental vulnerabilities. This includes increased anxiety due to unpredictable weather, stress from displacement, and cultural disconnections due to the loss of traditional lands. It shows how these changes weaken community

[406] Ng Shui, R. et al (2024c).
[407] Newport, C. et al (2024c). 16.

bonds, cause stress from relocation, and diminish cultural and spiritual ties, illustrating the lasting impact of climate change on the mental health and social cohesion of Pacific communities.

The examples provided across various Pacific communities highlight the pervasive and interconnected nature of psychosocial harm associated with climate change impacts and displacement. In places like Vaimaanga, Cook Islands, Red Beach in the Solomon Islands, and communities in Kiribati, Tuvalu, and Papua New Guinea, stress and anxiety arise from water scarcity, cyclones, sea-level rise, and environmental degradation, threatening livelihoods, cultural identity, and social bonds. Additionally, the fear of forced relocation and the loss of ancestral lands contribute to a deep sense of loss and uncertainty among communities in places like Pukapuka, Niue, and Matupit, Papua New Guinea. This uncertainty extends to youth, who face anxieties about their future roles and decisions amidst environmental changes.

Displacement following natural disasters, such as the 1986 cyclone in Papae Kolosulu, Solomon Islands, and the 2009 tsunami in Lalomanu and Satitoa Villages, highlights the trauma and disruption to community life and cultural connections to land and spirits. Moreover, concerns about the future sustainability of communities, as seen in Lord Howe Settlement and Funafuti, Tuvalu, contribute to chronic stress and anxiety. Reluctance to relocate from coastal areas, as observed in Ambu, Solomon Islands, underscores the deep emotional attachment to homes and memories, further exacerbating psychosocial harm. These examples emphasise the urgent need for comprehensive support systems and policies that address the emotional, social, and cultural dimensions of climate-induced displacement, while fostering community resilience and wellbeing.

The importance creating a sense of place, to promote wellbeing and minimise the trauma, which will inevitably arise from movement away to a new relocation site, is exemplified in the talanoa with an elderly couple who had relocated from Mango. The couple shared how the husband used to deep sea dive and spearfish in the waters of Mango. Their old fishing spear and equipment were displayed on their front porch in of their new home in Mango-'Eua.[408] This example demonstrates that place-based programming as a core element of a well-designed, participatory planned relocation and need not be expensive to be successful.

Factors of wellbeing like family support, cultural values, and access to resources like clean water and nutritious food play vital roles in ensuring community resilience and prosperity. As communities face the complexities of climate-induced challenges, it is essential for policymakers to recognise the interconnected dimensions of wellbeing, heritage, and cultural knowledge. This understanding can help support thriving communities, whether they choose to remain in place or relocate. Examples from research highlight various aspects of wellbeing impacted by climate change, including mental health, domestic violence, physical health, community resilience, spiritual and cultural wellbeing, economic wellbeing, and social wellbeing. These examples underscore the importance of holistic approaches to address the diverse needs of communities facing climate-related challenges.

# *FUTURE SCALE, PATTERN AND IMPACTS*

## Painting the picture

Taking the previous section as a point of departure, in this section we seek to paint the picture of what the research tells us about the future scale and impacts of climate-change related mobility will be, and identify points of policy intervention.

[408] Vaioleti, L., et al. (2024).

The picture that emerges reflects that the inter-connected factors of localised population pressure, land and marine tenure and food and water insecurity – what we have identified as 'the driver' – will continue to be of major importance.

That these interdependent factors also represent the anticipated drivers of (im)mobility clearly emerges in the future scenario planning undertaken in relation to Tonga and Samoa. Participants came with a range of professional backgrounds, as well as student and youth representation. A number of government ministries were represented in the workshops in both Tonga and Samoa. There was a mix of genders represented through the participants, including two who identified as transgender. Participants were taken through an intensive day-long process of scenario development and exploration to design and detail four possible futures - set in the year 2050 - for each Tonga and Samoa.

Participants believed that "while family will continue to provide shelter wherever they can, the tolerance of receiving communities will drop as more people move inland or to higher land" (an issue of localised population pressure and land/marine tenure) and that "food security is a concern and it will have an outsized impact on internal and overseas mobility".[409] That such a diverse mix of participants identified these as being among the important themes relevant to the future experience of climate change underscores the degree to which they will continue to drive future (im)mobility in the region.

**That this driver *will* influence (im)mobility is predictable. Quite *what* this means in terms of future scale and pattern is less so**. Drawing on the previous sections it is important for policy makers to keep in mind the following, when thinking about future (im)mobility in the context of climate change .

**First, the localised experience of national-level population trajectories is important, particularly of burgeoning youth and aged populations**. In communities in which the population is or will become skewed towards older cohorts, this will likely impact how much staying in place features. For those skewed towards the youth, the trajectory brings into focus the capacity of land and marine tenure arrangements to peacefully absorb current and future growth.

It is also important to recognise the importance of 'stay-to-move' mobility. Today's 0-4 year olds are tomorrow's students, workers and, potentially, migrants – whether internal or international. The willingness, and ability, of a youthful population to move elsewhere for study, for work, for marriage will shape not just their own contribution to future scale and pattern, but also the contribution of others, for whom their movement enables continued stay.

This will have different implications depending on which cluster the country falls in. For example, in the Western Pacific, as we have noted already, the challenge for policy is how to support communities mostly living in villages simultaneously coping with demand for access to land for farming as well as increasing the mobility of increasing numbers of young adults, while addressing issues associated with preferences for staying in place amongst the older population.

In other clusters the population-related challenges are more likely to be linked with increasing urbanisation of populations both internally and overseas. Young adults are seeking livelihoods based on cash earnings rather than subsistence production and increasing numbers are seeking opportunities for work in towns. Where there are large overseas-based components to the cluster's population international mobility has become part of the way of life in Pacific transnational families.

[409] Vaioleti, L. et al. (2023d). 8-9.

**Second, the everyday action of households and communities will continue to provide resilience.** Communities will innovate and adapt to meet changing environmental conditions impacting their site or sites of settlement, as they have done in the past. These conditions will be shaped, depending on the geography of their settlement, by exposure to weather, climate and/or geophysical hazards. The degree to which this every day resilience is maintained and enhanced – including though external support as required – will have a direct bearing on the scale and pattern of future (im)mobility by dampening the effect that climate change would otherwise have on food and water insecurity and thereby easing the impact of a local population pressure. This means more people will be able to choose to remain in place for longer. Maximum scale will continue to be delineated by the population-absorptive capacity of land and marine tenure arrangements.

There are policy entry points in relation to each factor. Investing in better, more comprehensive hazard data will improve early warning capacity and, if aligned with forecast-based financing, better drive anticipatory action. Supporting everyday action places a premium on community-led development projects in which the mobility implications are factored into design.

**Third, future scale and pattern will be influenced by information around anticipated climate change impacts.** While decision-making is likely to remain at the household or family level (including here, family members living beyond national borders), it will continue to be influenced by discussions that are occurring at the community level. The extent to which information around future climate change flows into community level governance structures and is transmitted to households in village meetings in digestible form will, alongside the lived experience of environmental change, shape perceptions of risk and influence – at least for some – the decision around whether some or all of a family unit continue to stay in place. This means investing time in understanding and supporting traditional governance structures and leadership.

For members of transnationally distributed families, communication with kin abroad provides another information portal. As with community structures, the extent to which information about climate change – here, both in the PICT and in the other country or countries where 'place' is located – will also shape decision-making around whether, when and where to move.

**Fourth, families will continue to be first responders and the primary support mechanism in cases of future mobility.** The extent to which families are supported by well-designed policy to fulfil these functions will influence how these forms of movement impact not just those moving, but also the wider family unit.

**Fifth, changes in immigration policy in the main destination countries within the region as well as on the Pacific rim will obviously have an impact on the scale and pattern of population movement.** Responses to the introduction of seasonal work programmes by the governments of Aotearoa New Zealand and Australia in the late 2000s have already been discussed under Current Scale, Pattern and Impact. These policy initiatives, which will continue to have a significant impact on temporary migration in the region, have recently been augmented by the introduction of Australia's Pacific Engagement Visa[410], and plans by the Coalition Government in Aotearoa New Zealand to expand the RSE scheme.[411] While these policy developments will provide new opportunities for temporary and long-term migration from participating countries throughout the region, they are likely to have most impact in the western and central Pacific clusters.

[410] See Dingwall, D., Voloder, D., Movono, L. And Kupu, M. (2024) The Pacific Engagemnt Visa is set to grow the region's diaspora in Australia – but experts warn of challenges ahead. ABC News, 7 June. Accessible at: https://www.abc.net.au/news/2024-06-07/pacific-engagement-visa-ballot-diaspora-migration/103936844

[411] NZ Herald (2024) PM Christopher Luxon wants thousands more seasonal workers from Pacific countries in New Zealand. NZ Herald 17 June. Accessible at: https://www.nzherald.co.nz/talanoa/pm-christopher-luxon-wants-thousands-more-seasonal-workers-from-pacific-countries-in-new-zealand/FV3Q37JKIRCJBLFR5SJNND4RXI/

While climate change is not specifically mentioned as a reason for these more general labour migration policy initiatives climate (im)mobility is beginning to feature in specific bilateral arrangements like the recent Falepili Union between Australia and Tuvalu[412] During the next decade climate change is likely to be referenced directly much more in proposals relating to cross-border movement of Pacific peoples within as well as beyond the region.

Having made these general remarks, we now turn to set out what we believe the research signposts by way of the specific forms of immobility and immobility set out in the Pacific Regional Climate Mobility Framework.

## Staying in place

Overall, the research as a whole indicates that staying in place will continue to feature prominently in future pattern. How this will present depends on the household and community contexts, and the extent to which staying in place represents a manifestation of voluntary and/or involuntary immobility. As noted, however, these are not binary positions, and both may influence a decision to stay in place at the household level. Moreover, choosing to stay will in some cases reflect concern about movement. For example, concerns about the loss of agricultural lands, changes in diets, and the possibility of forced relocation if climate trends persist contribute to the reluctance to leave.

Where staying in place is of an involuntary nature – for example through a lack of financial or of social capital in the form of having family networks elsewhere – the future scale of staying in place will depend on the extent to which these barriers are reduced though policy. Where staying in place is predominantly voluntary, the key policy challenge will be how to best support family to stay, particularly should food and water insecurity ramp up over coming decades because the impacts of climate change outpace the ability of communities to cope through innovating traditional practices.

Despite the challenges posed by climate change, many communities in the Pacific have chosen to remain in their current locations for various reasons, and these reasons will endure. First, this decision often stems from a deep sense of attachment and obligation to the land, and ancestors buried there, particularly among older generations who resist the idea of moving elsewhere. There will be many, like the Vaimaanga community, which has no immediate or long-term plans to relocate, opting instead to adapt to the changing climate conditions.[413] So too in Tonga and Samoa where some individuals have invested in climate-resilient infrastructure, such as raising homes using earth and rocks, to mitigate the risks of flooding.[414]

Family ties – both internal and to family beyond national borders – will continue to play a significant role in shaping the scale of future (im)mobility. Many participants highlighting the importance of staying close to relatives, especially children, as a driving factor in their decision to remain in place. Ties to family beyond national borders provide for financial and in-kind remittances. The survey of Tongan diaspora showed that the most common application of family-funded adaptation in Tonga was raising a family home, and in Samoa, the rebuilding a home or business post flooding or storm.

The research also tells us that framing policy entry points is important. Despite facing challenges like coastal erosion, communities such as Takaeang view them as opportunities for growth rather than vulnerabilities. Additionally, factors such as proximity to opportunities and emotional ties to ancestral lands further solidify the resolve of communities like Aruligo and Matupit to stay, despite the adversities posed by climate change. In Atafu, the construction of seawalls represents a collective effort to bolster resilience against rising sea

[412] See, for example, Dziedzic, S. (2024) Australia, Tuvalu lay out terms of landmark climate and security pact, ABC 9 May. Accessible at: https://www.abc.net.au/news/2024-05-09/penny-wong-australia-tuvalu-signs-climate-security-pact/103825000
[413] Newport, C. et al. (2024e).
[414] Vaioleti, L. et al. (2024).

levels, reflecting the community's determination to adapt and persevere in the face of environmental changes.

Staying in place will continue to exert a powerful influence on future scale and pattern because it is the site where everyday resilience is practiced. This may become even more true, given the understanding that other places to where movement might occur given the presence there of family will also be exposed to hazards. This sentiment is clearly expressed in the family study in Nanumaga:

> *A latou e heki galue keatea mo Nanumaga ona ko pokotiaga o mafulifuliga o 'tau o aho tela e pokotia i ai a tatou katoa. Kae ne galue keatea mo Nanumaga ona me ia latou e halahala o he olaga tai lei atu. Ke taku ne tatou pela me ia latou nei ne galue keatea ona ko mafulifuliga o 'tau o aho, ki te aku he 'mau e haa tonu, me i matagi malohi mo galu lahi ne mea loa kola e 'tupu ia latou… e haa iloa ne tatou a te taimi tela e poko mai ai pela hoki mo te taimi e gata i ai. A mea konei ne mea loa e tupu. Me ne gahue koe ki Vaitupu, e pau loa e poko hoki i Vaitupu. Io me e gahue koe ki Niusila, me he fenua hoki fakatea, e pau katoa loa, e haa iloa ne tatou a te taimi e oko mai i ai a mea kona.*
>
> *[They moved out of Nanumaga not because of the threat climate change poses to all of us. But they moved because they were in search of a better life. To think that climate change caused these people to move out of Nanumaga is incorrect, for these strong winds and high tides were things that do happen on their own… we do not know when they will arrive and when they will cease. Those things will happen whether we like it or not. Whether you move to Vaitupu, it will be the same, those disasters will also strike there. Or whether you move to New Zealand, or any other country, it is all the same, we will never know when those disasters strike…]*[415]

**It is also important to recall how the (im)mobility of some family exists in relational symbiosis with the mobility of others through 'move-to-stay' decision making . Over the longer-term horizon, the scale of (im)mobility both at the community and national levels will, to some extent, be a function of degree to which national, bilateral and regional policy settings provide opportunity for individuals to become mobile.**

## Displacement

Displacement will continue to feature and will likely increase. The scale of increase is uncertain, in part, because of a lack of accurate baseline data of current levels of displacement.

Urban displacement will also feature, including repeated displacement, particularly in sites of informal settlements where communities are more exposed to underlying hazards. The extent to which urban displacement features in the future will depend on a number of factors including the extent to which the urban population increases through internal rural-urban migration (thereby exposing more people to the relevant hazard or hazards) and the extent to which urban disaster risk reduction and climate change adaptation measure are targeted towards informal settlements or other places where internal migrants may be residing.

As part of the PRDD project, IDMC included in its country risk assessment projections of future scale of displacement. These are expressed in terms of a 'probable maximum displacement' over different return periods and an 'average annual displacement'.

[415] Peneta Hauma, T. (2024). 7.

### *Probable Maximum Displacement*

This is explained as representing "the maximum displacement expected within a given time period, and outlier events that could occur during it". IDMC states it is best expressed as the probability of a given amount of displacement being exceeded over different periods of time. Table 2 provides the probable maximum displacement for selected countries.

**Table 2: Probable Maximum Displacement for selected Pacific countries**

| **Hazard type** | IDMC's Future Displacement Analysis **Country/Year return period** (% probability of occurring '-' =no estimate provided/insufficient data) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Solomon Islands** | | **Fiji** | | **Vanuatu** | | **PNG** | | **Tonga** | |
| | **20y** | **50y** | **20y** | **50y** | **20y** | **50y** | **20y** | **50y** | **20y** | **50y** |
| Storm Surge | 8000 (56%) | _ | 35,000 (56%) | - | 10,060 (33%) | | - | 10,000 (39%) | - | - |
| Cyclonic Wind | - | 68,000 (64%) | - | 65,000 (18%) | - | 34,600 (64%) | -- | 1000 (39%) | - | 21,400 (64%) |
| Earthquake | - | 41,000 (39%) | - | 1,100 (39%) | - | 6,290 (39%) | - | 100,000 (18%) | - | 3000 (50%) |
| Tsunami | - | 3000 (5%) | - | 80 (5%) | - | 230 (5%) | - | 10,000 (10%) | - | - |
| Riverine Flood | - | - | - | - | - | - | 375,000 (18%) | - | | |

Source (IDMC: 2020; 2021a, b; 2022 b,c,d)

For example, for Papua New Guinea, IDMC estimate that there is an 18% probability that "an earthquake" will displace 100,000 people "at some point" in the next 50 years. Similarly, there is a 39% probability that a storm surge will displace 10,000 over the same period. For Fiji, IDMC estimate a 5% probability that a tsunami will displace 80 people; a 39% probability that ~1,100 people will be displaced by an earthquake; and an 18% probability 65,000 people will become displaced by cyclonic winds in about the next 50 years .

### *Average Annual Displacement (AAD) per hazard and multi-hazards*

Average annual displacement is the "magnitude" of future displacement by hazard types that a country can experience. It is not the number of displacements that the country will incur each year. Rather, it represents the number of people expected to be displaced per year, considering all the events that could occur. IDMC state that "the AAD is useful for providing a sense of the scale of the annual risk of displacement". IDMC note that its AAD projection will tend to mask outlier events of low frequency but high intensity, which can cause significant levels of displacement. Table 2 sets out IDMC's figures for the scale of annual displacements by hazard type.

***Table 3: Average Annual Displacement (AAD) per hazard(s) in selected Pacific countries***

| Hazard | COUNTRY | | | | |
|---|---|---|---|---|---|
| | Solomon Islands | Fiji | Vanuatu | PNG | Tonga |
| Storm Surge | 1,368 | 3,614 | 1,125 | 234 | - |
| Cyclonic Wind | 2,372 | 2,076 | 2,133 | 2134 | 1051 |
| Earthquake | 278 | 75 | 417 | 24,000 | 168 |
| Tsunami | 11 | 1 | 1 | 159 | 10 |
| Riverine Flood | - | - | - | - | - |
| Totals | 4029 | 3614 | 3700 | 31,000 | 1229 |

Source (IDMC: 2020; 2021a, b; 2022 b, c, d)

Table 3 shows that IDMC have estimated that, in any given year in the future, 31,000 people could be displaced in Papua New Guinea due to the various hazards. More than 4000 could be displaced in the Solomon Islands in any given year in the future, and in excess of 3500 in any given year in the future in both Fiji and Vanuatu.

Apart from giving an indicative sense of the scale of future displacement in certain PICTs, Tables 2 and 3 highlight two important points. First, they demonstrate the uneven nature of hazard mapping within countries. Volcanic eruptions and landslides do not feature as specific hazards for which modelling was undertaken, despite each driving often substantial and protracted displacement. Second, the tables are notable for the large number of cells for which insufficient data has been available for modelling to occur.

It is to be recalled that a lack of relevant data was mentioned by both Kiribati and Tuvalu in their reports to the recent mid-term review of the implementation of the Sendai Framework. For both countries, this has acted as a constraint on progress towards reducing the numbers of persons affected by disasters – including through displacement – one of the targets of the Framework. Addressing such data challenges will be central to developing displacement-sensitive policy.

## Migration

The research as a whole cautions against over-generalisation about both the impact of climate change on individuals, households and communities in the region, as well as over-generalisation of migration responses to climate change. Policy responses to climate change require approaches that are very sensitive to local conditions, cultures and contexts. They also require appreciation of the continuing importance of *circulation* of people between places where they have resources, family members, and opportunities to achieve important economic and wellbeing goals.

In addition, the variable histories of international migration in the different clusters will continue to have a major impact on responses to climate change. For individuals, families and households in the western Pacific, for example, there are none of the well-developed and tested pathways to temporary and long-term residence overseas that can be found in the central, eastern and northern Pacific. However, opportunities

for voluntary movement overseas from the western Pacific have increased significantly, especially to Australia, since 2010 and, over time these are going to have a major impact on the development of transnational communities of Papua New Guineans, Solomon Islanders and ni-Vanuatu.

**Migration in response to climate change is unlikely to involve complete abandonment of particular localities for most movers**. Except where places disappear under the sea or under debris from volcanoes or landslides, circular mobility patterns will keep "the fires burning" for future generations in places that have cultural significance for the movers and their multigenerational families. Even should such abandonment be necessitated by catastrophic changes in the local environment, return by smaller groups of people to reconnect with such places to draw spiritual and emotional sustenance will likely feature at some scale.

**While internal or international migration will remain circular in character, the scale, periodicity and duration of circulation will vary over time depending on the location of settlement in the PICT, the particular circumstances of the family unit (including its age-sex structure) and, in the case of international migration, the immigration and social policy settings of the country which is also home to transnationally distributed family groups**.

In terms of scale, the research has made use of population projections produced by the UN and SPC in their reports.[416] Reservations are expressed in the reports about the migration assumptions used in the projections and they caution that the projected populations at the country level out to 2050 were likely to be too high if climate change resulted in significant increases in numbers leaving Pacific countries for overseas destinations in the region, or in countries on the Pacific rim.

## Net migration rates – a review

To provide more robust evidence to support this concern of both teams, estimates of net migration rates around 2020 and 2050 have been derived from unpublished data provided by SPC and from the UNDESA medium projection series. These rates, presented in Table 4, are expressed per 1000 people in the population in 2020 and 2050 for the five clusters, for the Pacific population as a whole, and for the Pacific population excluding Papua New Guinea. Comparable estimates for New Zealand and Australia can be obtained from the UNDESA projection series, and these are included in Table 5.

[416] Vaioleti, L. et al. (2023a); Bedford, R. et al. (2023a, 2023b).

**Table 4: Projected net migration rates for 2020 and 2050 by cluster**

| Cluster | Net migration rates (per 1000 population) | | | |
|---|---|---|---|---|
| | SPC 2020 | UN 2020 | SPC 2050 | UN 2050 |
| Western Pacific | -0.2 | -0.1 | -0.1 | -0.1 |
| Central Pacific | -5.8 | -6.0 | -3.5 | -1.8 |
| Eastern Pacific | -18.0 | -9.8 | -12.4 | -5.2 |
| Northern Pacific | -9.4 | -8.2 | -6.1 | -2.7 |
| French Territories | -0.5 | -2.7 | -0.3 | 0.5 |
| Pacific | -1.6 | -1.3 | -0.7 | -0.4 |
| Pacific (excl. PNG) | -3.1 | -4.6 | -1.4 | -1.5 |
| Aotearoa New Zealand | n.a. | 7.6 | n.a. | 2.2 |
| Australia | n.a. | 4.6 | n.a. | 4.3 |

Source: Based on SPC's 2020 and UNDESA's 2022 Medium projection variant.

Three key things stand out in the estimated net migration rates in Table 4:

1. The estimates derived from the SPC migration assumptions for both 2020 and 2050 are higher than the estimates derived from the UNDESA assumptions in both years for the five clusters and for the two Pacific region totals;
2. The estimates for 2020 from both sources are higher than their estimates for 2050 in the five clusters and for the two Pacific region totals; and
3. The eastern Pacific cluster, which includes Samoa and Tonga, has the largest net migration losses per 1000 population in both years and in both data series. The other clusters are consistently ordered, from largest net losses to smallest, as follows: northern, central, French territories and western.

The data presented in Table 4 for the UNDESA estimates for net migration gains to Aotearoa New Zealand's and Australia's populations in 2020 and 2050 provide a reality check for the Pacific rates. Both of these countries had large net migration gains before the COVID 19 pandemic closed international borders, and these net gains have picked up again since borders reopened. The magnitude of the net gains per 1000 population for Aotearoa New Zealand and Australia in the two years shown suggest that the net losses for the Pacific clusters are not out of kilter with what might be expected given the nature of the migration assumptions used by UNDESA.

A lot more could be said about the SPC and UNDESA migration assumptions for the PICTs between 2020 and 2050, but it is clear from Table 4 that constant or declining rates going forward are quite conservative and they definitely do not make any allowance for increases in international migration as a result of climate change.

## Changes in immigration policy

As noted, changes in immigration policy will now be moderated by a regional policy context which includes the Pacific Regional Framework on Climate Mobility. This Framework recognises that "rights -based" cross-border migration can play a critical role in allowing people to move "safely and on their own terms on the

context of climate change" and as adaptation strategy leveraging " state-led initiatives to develop specific [migration] pathways....".[417] This regional framework provides further impetus to the development of migration policy in two broad trajectories:

> (a) cross-border movement as form of short of long-term voluntary adaptation to the lived and/or anticipated impacts of climate change; and
> (b) cross border, movement (admission) and stay on humanitarian grounds due to the effects of a disaster in the country of origin, transit or destination.[418]

The scale of the latter is, to some extent, contingent of the scale of the former in that the greater the volume of temporary movement a visitors, students or workers, the more persons whose temporary visa status may be adversely impacted when a disaster occurs and who may require an immigration response on humanitarian grounds to remain lawfully in the country.[419]

At the regional level, the extent to which cross-border/international migration features in terms of scale and pattern of future climate change-related mobility depends to a significant extent of the migration policy setting at the national level, particularly in countries who act as a hub for a wider cluster of PICTs. **The research has charted the emergence of Fiji and Australia as hubs, alongside the established hubs of Aotearoa New Zealand, the United States of America and France. This development is important as it has increased the volume of migration policy nodes around which international migration in the context of disasters and climate change might occur.**

**The research has identified five mobility relevant sub-regional groupings, as opposed to the more traditional grouping of Melanesia, Micronesia and Polynesia. These developments are important as they signal a more variegated landscape for immigration policy. The future scale and pattern will this be shaped by the degree to which the migration policy settings of the various hubs reach into one of more of the five sub-regional clusters and the extent to which any particular PICT is represented in more than one.**

The significance of these developments can be seen in the changes in immigration policy in Australia which will have an impact on international migration to that country from many PICTs. The Pacific Engagement Visa (PEV), discussed briefly in the Diverse Pacific section, is likely to have an impact on flows from the western and central Pacific especially. The Pacific Access Category and Samoan Quota, on which the PEV is modelled, have certainly had major impacts, over time, on migration from eligible countries, and have made significant contributions to building Pacific transnational communities in New Zealand.

New bilateral arrangements, like the Falepili Union which has now been finalised by the Tuvalu and Australian governments will allow for up to 280 citizens of Tuvalu to seek residence in Australia on an annual basis, have the potential to have a profound impact on population change in PICTs with small populations.[420]

There are, however two important caveats which emerge from the research. First, even if migration policy settings in a hub country are loosened, this does not mean that all those eligible to take advantage will do so; many will likely continue to choose to stay in place. While there will be a generational signature underlying this phenomenon in some instances, the research makes clear that this will not be the only factor. Significantly, there is evidence that an awareness that even hub countries are also experiencing the impacts

[417] At paras 28 and 30.
[418] At paras 38 – 42.
[419] This element of the Regional Climate Mobility Framework draws on Burson et al. (2021) which reviewed the various tools which some countries in the regional have at their disposal to deal with
[420] See Dziedzic, S. (2024) *Australia-Tuvalu lay out terms of landmark climate security pact*, ABC News, 9 May 2024. Website. Accessible at: https://www.abc.net.au/news/2024-05-09/penny-wong-australia-tuvalu-signs-climate-security-pact/103825000

of climate change, coupled with an attachment to place, may cause even younger persons to choose to remain in home islands, even if international migration pathways exist.

Second, this loosening of migration policy settings will not translate into permanent movement in all cases. While some who migrate abroad may move their principal 'place' of residence, many will, if enabled, also continue to return to the home island temporarily to visit family, for work, and/or for important gatherings as they do now. Some will choose to return permanently after spending many years abroad, as they also do now. **In other words, while any loosening of migration policy settings will cause the volume of person circulating across borders to increase, the fundamentally circular nature of cross-border movement will likely remain a dominant feature of pattern.**

## The case of American Samoa

There is one Pacific population where the UNDESA migration assumptions, along with declining fertility, do lead to absolute population decline every year between 2020 and 2050 and that is American Samoa (Figure 16).

The net migration rate in 2020 (-35.8 per 1000) for this population, which is almost four times the UNDESA's overall rate (-9.8 per 1000) for the eastern Pacific and, although these rates decline slowly through to 2050, they remain much higher than the UNDESA average for the cluster right through to that year and beyond. It is not clear why this very different set of migration assumptions is used for American Samoa but, as can be seen in Figure 16, the effect of such high rates on the curve for population change (the solid pale blue line) is very different from the curve derived from the SPC's estimates and projections (solid dark blue line) from as early as 2000.

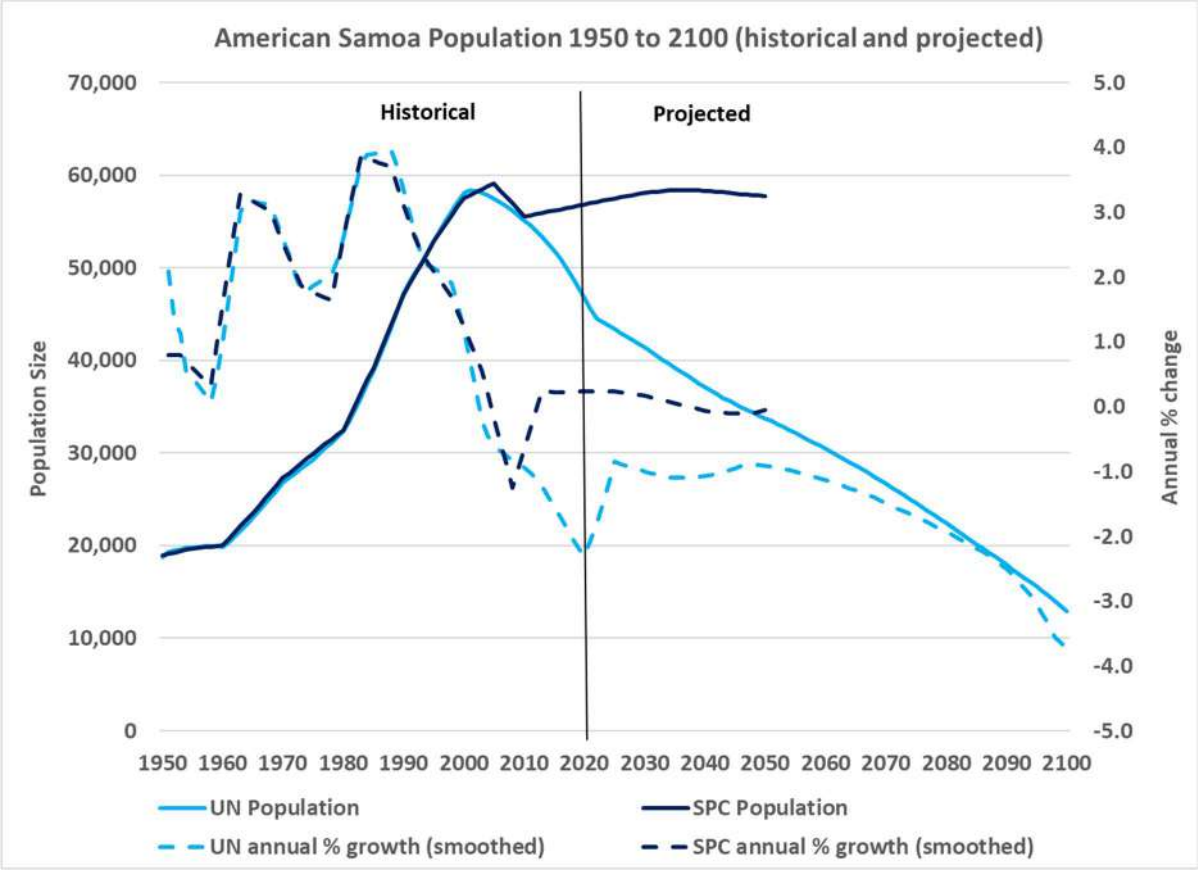


***Figure 16: Population change in American Samoa since 1950: SPC and UNDESA estimates and projections***

While this radical change in the pattern of population growth in American Samoa in UNDESA's estimates and projections cannot be attributed to factors linked with climate change, the graph provides an illustration of

what much higher rates of net migration overseas, as one of the responses to climate change, might mean for small Pacific populations in the eastern, central and northern Pacific in the future.

## Estimates and scenarios for Tonga and Samoa

In their reports on surveys and climate change scenario exercises carried out in Tonga and Samoa, and in their draft synthesis report, some very valuable insights into how residents perceive both the impact of climate change on their future mobility plans and the impacts that different scenarios for climate change could have on their ways of life by 2050.[421]

Surveys of 305 Tongan participants and 290 Samoan participants sought information on general mobility 'willingness', beliefs around future climate mobility, internal and overseas destination preferences, and recent and planned mobility, including climate-related mobility (internal – with planned direction, and overseas – with planned country). While small percentages of the survey populations in both countries indicated that climate change had already had an impact on movement decisions they had made, when these percentages are applied to the national populations, they provide some useful insights into the potential *scale* of mobility that might be attributed to climate change.

The limitations surrounding estimates of recent and potential future (im)mobility that may be attributed to climate change, based on findings from non-random sample surveys are expressly noted. But, despite the caveats, the results provide very useful insights into the future scale, pattern and impact of climate change in Tonga and Samoa. Some of the headline findings from the surveys, can be summed up as follows: [422]

1. The proportion of the population already moving due to climate (+/- environmental) factors seems higher in Tonga than Samoa.
2. The proportion of people expecting or actively planning climate-related mobility in Tonga and Samoa in the next five years is higher than over the past five years.
3. A high proportion of those who are planning internal climate-related mobility are also planning overseas mobility in the next five years.
4. A higher proportion of those looking to be mobile from Tonga than Samoa will look to Aotearoa New Zealand as their destination, with the survey in Tonga suggesting this could be as high as 75%.
5. More women seem to have been mobile in Tonga than Samoa, and those with a 'pent-up desire' for mobility/facing involuntary immobility are also predominantly women.

A very comprehensive overview of the outcomes of their field research in Tonga and Samoa is provided in the draft synthesis report, which highlights similarities and differences between the two countries. This is reproduced in full below (Table 5). It contains the estimates of mobility that have been and might be impacted by climate change.[423]

[421] See Vaioleti, L. et al. (2023b, 2023c, 2023d).
[422] As communicated to the synthesis team by Lora Vaioleti email (17 April 2024).
[423] Vaioleti, L. et al. (2024). 9-11.

**Table 5: Overview of findings from fieldwork in Samoa and Tonga: similarities and differences**

| | Similarities | Differences |
|---|---|---|
| **Scale** | - Household food security as a current and future driver of mobility.<br><br>- Access to funding as an enabler for mobility, as an enabler to rebuild (i.e., critical for choice).<br><br>- Obligation (to family, living and passed, to the land itself) as a barrier to mobility, as a reason to remain in place and keep rebuilding.<br><br>- Family, including close and extended, enabling mobility options – both internally and overseas. | - Erosion of residential land, already a mobility driver in Tonga.<br><br>- Higher proportion of the Tongan population have undergone or are in the process of mobility where climate change is a factor (based on *Survey One* results), though both estimate ~1,600 annually in Tonga and Samoa (noting Samoa's population ~double Tonga).<br><br>- In the next five years, Samoa could see ~3,083 mobilise annually where climate change is a factor, Tonga could see ~3,650 annually (a higher proportion of total population).<br><br>- ~1,233 people in Samoa could (also) mobilise overseas annually in the next five years due, at least in part, to climate impacts (~1,000 people in Tonga).<br><br>- 72,900-125,000+ people by 2050 could be under particular climate stress in Samoa, compared with 10,500-35,000+ in Tonga (noting different availabilities of exposure mapping between Samoa and Tonga – more specific studies of coastal inundation for a larger capture of the population done for Tonga at this stage). Note also that this climate stress will play out very differently in Tonga and Samoa given e.g., land tenure systems. |
| **Pattern** | **How people may move**<br><br>- Climate mobility is happening and will happen as a (nuclear) family.<br><br>- An impermanency (for many) in plans for overseas relocation, including for climate impacts (unless land lost to sea erosion or inundation).<br><br>**Where people may move**<br><br>- For overseas destinations, the preference is for Aotearoa New Zealand over Australia or the USA (though Australia was a closer second preference for those in Samoa).<br><br>- For internal mobility, can move to extended family.<br><br>**Who may move**<br><br>- Those with family, including spouses, already overseas, will be the ones more likely to move overseas in the future.<br><br>- Mobility options may be reduced in the future in both Tonga and Samoa as the notion of 'family' narrows from extended to nuclear family ("immediate needs, immediate family"). | **How people may move**<br><br>- Future climate mobility in Samoa will likely be as a group/family; climate mobility (internal) in Tonga likely to involve many levels of family separation and dispersal.<br><br>- Tongans displaying hints of a pattern of dual-focus climate mobility – taking steps for internal relocation while planning overseas mobility (for 10-15 years) to fund this longer-term (internal) relocation.<br><br>- Could be inter-island group differences in hazard or risk exposure and differences in approaches to mobility (return versus move and stay) for Tonga (e.g., the Ha'apain approach is typically to leave and not return).<br><br>**Where people may move and direction**<br><br>- Future climate mobility in Samoa more likely to be internal versus overseas.<br><br>- Much mobility for households in customary land in Samoa will be coastal to inland and upland.<br><br>- Rural to urban climate mobility predominates in near term and longer-term future for Samoa, coastal and urban to rural predominates in Tonga.<br><br>**Who moves (or does not)**<br><br>- Women appear to face both unique blockers to mobility (most with a possible 'pent-up desire for mobility' are female) and were also as a group more 'mobility willing' in Tonga .<br><br>- Generally, the younger age group (18-24 years) in Samoa are more mobility willing (seeking economic opportunities), in Tonga. *Survey One* showed 34-45 |

| | Similarities | Differences |
|---|---|---|
| | | years most mobility willing (supporting children into overseas education or work). |
| **Decision-making** | - Decisions for family mobility made at a nuclear family level ('mother and father'/'husband and wife', though possibly husband > wife in Samoa).<br><br>- The diaspora is often involved in mobility decisions for family in Tonga/Samoa (though uncommon to make the final decision). | - Land tenure systems different – Samoa characterised by flexibility (at least of customary land) though possible increasing complexity with splitting of Matai titles in a family, and ongoing trend of fewer households on customary land will impact this in future.<br><br>- Differentiated land holding rights for women versus men in Tonga with resultant vulnerabilities for women and women-led households.<br><br>- Village level decision-making involving Matai on whether to move, allocation of land etc. in Samoa.<br><br>- In Tonga, the influence of the King in village level decision-making, the role of the government in coordinating village mobility (in Samoa, some village level relocation has occurred autonomously).<br><br>- Diaspora in Samoa possibly instigating conversations around mobility more than Tongan diaspora. |
| **Impacts** | - Impact on income/income continuity the priority challenge following relocation.<br><br>- Psychological trauma left unaddressed and was identified as a priority issue by those who moved, as well as the general community (and diaspora), Tonga more than Samoa. | - Uptick in domestic violence in Samoa (noting this could be sampling, cultural or otherwise, that it was not raised in Tonga).<br><br>- Integration issues, anxieties in Tonga on internal mobility, including social/status vulnerability, issues around self-identity (linked to inter-island group cultural and social diversity). |
| **Actions (to reduce harm)** | - Ongoing climate awareness campaigns across all levels of the community and including practical training and access to equipment for adaptation (housing and planting).<br><br>Values as resilience – invest in revitalising and reinterpreting in the context of future climate change and mobility.<br><br>Invest in psychological preparedness for future climate-driven mobility (practical and emotional planning). | - Samoa is ahead of Tonga in the government's dedicated efforts to strategically approach and coordinate engagement with overseas diaspora to support with development priorities.<br><br>- Need for a contextual national framework for mobility decision-making/relocation, and monitoring and evaluation.<br><br>- Financial support options / land access options for climate stressed populations. |

## Future Scenario Building as a tool highlighting potential pattern

Research into how Tongans and Samoans view the impacts of climate change in the future using well-established techniques for scenario building has also produced valuable insights into potentially different responses in the two countries. Again, a useful infographic is reproduced from the University of Waikato report "*Moving futures. The scenarios*" (Table 6). It summarises some of the elements of the scenarios that emerged from the visioning and development workshops conducted with groups of participants from a wide range of sectors and interest groups in both countries.

***Table 6. Mobility assumptions by future scenario: a summary***[424]

[424] Vaioleti, L. et al. (2023d). 7.

| | SCENARIO TITLE | SCENARIO FORCES | ASSUMED MOBILITY RESPONSE | | | | COMMENT |
|---|---|---|---|---|---|---|---|
| | | | INTERNAL | CROSS-BORDER (OUT) | CROSS-BORDER (IN) | CROSS-BORDER CIRCULARITY | |
| TONGA | FUTURE ONE: NOFO 'I TONGA (STAY IN TONGA) | Climate change as projected, tighter immigration policy | | | | | Many seek higher land however desperation is not high enough to drive irregular migration. |
| | FUTURE TWO: LUSIA KI TAULANGA (STRUGGLING TO REACH SAFE HARBOUR) | More extreme climate change, tighter immigration policy | | | | | Many seek higher, arable land. The few who can cross the border (legally or not), do. |
| | FUTURE THREE: HIDDEN TREASURE | Climate change as projected, looser immigration policy | | | | | Foreign workers flow in to fill gaps. Those in low-lying or coastal areas move permanently. |
| | FUTURE FOUR: SIU 'AE TAVAKE (THE SEARCHING TAVAKE) | More extreme climate change, looser immigration policy | | | | | Some try internal mobility first, due to conflict and limited land access, find cross-border easier. |
| SAMOA | FUTURE ONE: NAFANUA | More extreme climate change, stronger economy | | | | | Climate degradation drives rural to urban flow, with additional pull from work opportunities. |
| | FUTURE TWO: MANANA'O FAALUPE O ELEELE NAUMATI (LONGING FOR FREEDOM) | More extreme climate change, weaker economy | | | | | Many move inland and upland within village borders. People with the means, cross the border. |
| | FUTURE THREE: TUA'OLOA | Climate change as projected, weaker economy | | | | | Rural-urban, cross-border flow in search of income. Diaspora return for alternate industries. |
| | FUTURE FOUR: SAMOA MANUIA | Climate change as predicted, stronger economy | | | | | High numbers of the Samoan diaspora return for the lifestyle, renewed culture and prosperity. |

A clear message from both the surveys and the scenario building exercises is that generalisation about current and potential impacts of climate change on decisions to move or stay, or decisions to move to stay, across Pacific countries is very dangerous. Research at the regional, sub-regional, national, community and multigenerational family scales for this climate (im)mobility project has made this very clear.

## Relocation

Relocation will, at the regional scale, remain predominantly internal in nature. Household and community-led relocations will continue as they have done for centuries. Future scale will depend in part on the extent to which other counties follow Fiji's lead and develop an organised programme of state-led relocations.

In 2022, the Solomon Islands government published its own Planned Relocation Guidelines which records:

> Climate-driven relocation is already occurring in Solomon Islands and more communities are expected to need to relocate in the future. The Solomon Islands Government (SIG) has already identified several communities that may benefit from Planned Relocation, such as Choiseul Province's capital, Taro.[425]

The document envisages the development of standard operating procedures, as has occurred in Fiji.

The research indicates that the Tongan Cabinet passed a bill for some people to move from an exposed area in Nuku'alofa as the areas had been mapped by both the Ministry of Lands, and the Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communications as part of a series of subprojects to reduce flooding risk in key exposed areas. There was no national-scale planning. While areas of Ha'apai (Lifuka) have been identified as at high risk of erosion and sea inundation, directions to relocate have not been issued simply due to the lack of land availability to enable relocation internally. [426] Scaling up planned relocation in Tonga might be complicated by the feasibility of taking back land from overseas landholders, given the significance of remittance flows to the national economy.[427]

[425] Government of the Solomon Islands *Planned Relocation Guidlines* (2022). 4.
[426] Morrison, S., et al (2024b). 16.
[427] Vaioleti, L., et al. (2024). 39.

Given the strong attachment to place, including the nation as a 'place' at a larger scale, **the research does not support a finding that there will be a desire to relocate internationally *en masse***:

> *Our people prefer to stay here in Kiribati, it would be great to visit other countries for site seeing, but not to migrate and stay in the countries. We prefer to be with our communities here in Kiribati. If we were to relocate we prefer to relocate within Kiribati, this is why assistance from developed countries in needed so that we can reclaim land to move our people.* [428]

## Pacific youth as a window of future (im)mobility

During the first decade of the twenty-first century, growth in the youthful component of many Pacific populations was attracting considerable attention from academics, policy makers and planners, and politicians in the region. Concerns about the implications of rapid population growth in the region had been stimulated by journalist Rowan Callick's very pessimistic assessment of population prospects for the Pacific in his 1993 essay "A doomsday scenario?" in a monograph addressing the region's development through to 2010.[429] The book, *Pacific 2010: Challenging the Future* (edited by R. V. Cole), attracted a wide range of attention and reviews, and for the next decade, into the 21st century at least, there was a great deal of interest in the demography of the Pacific.

At the heart of the concerns of the Pacific development debate that Cole and his colleagues were addressing in 1993, and which continues to be a matter of considerable concern, was the question: where will the burgeoning youthful populations in the region, and especially in the western Pacific, find employment and satisfying livelihoods? In 2006, this was a central question addressed by the World Bank team that produced the highly influential report *Pacific Islands at home and away. Expanding job opportunities for Pacific Islanders through labor mobility*.[430] It was this report that paved the way for the introduction of the seasonal labour mobility schemes in New Zealand and Australia that have played a major role in opening the door to temporary, as well as long-term, migration from the Pacific to Australia for the first time in over a century.

Heather Booth's contribution to the World Bank's report, entitled "The young and the restless: the challenge of population growth" addresses population projections for the region and highlights the major increases that were taking place, and would continue to occur, in the child and young labour force age groups. Her final sentence makes reference to at least two of the challenges linked with contemporary demographic and economic change in the region: "The high projected levels of excess supply of labour for the formal sector indicate the enormous challenge that the Papua New Guinea and Pacific island country governments have in front of them. The other side of this coin is that in the Pacific region there will be an increasingly larger pool of young people from which those countries with ageing populations will be able to draw."[431]

[428] Ng Shui, R. et al. (2024c). 13.
[429] Callick, R. (1993) A doomsday scenario? In R.V. Cole (Ed.) *Pacific 2010: Challenging the Future*, Canberra: National Centre for Development Studies, The Australian National University, pp.1-11.
[430] Luthria, M. et al. (2006) *Pacific Islands at home and away. Expanding job opportunities for Pacific Islanders through labor mobility*. New York: World Bank.
[431] Booth, H. (2006) The young and the restless: the challenge of population growth. In M. Luthria et al. (2006) *Pacific Islands at home and away. Expanding job opportunities for Pacific Islanders through labor mobility*. New York: World Bank, pp. 27-40.

## Growth in youthful populations in the 21st century: a cluster-level perspective

Two graphs, using index numbers for the vertical axis,[432] provide a useful summary of trajectories for growth (or decline) in two components of their youthful population: children aged 0-14 (Figure 17) and the working age population between 15 and 29 years. (Figure 18). The data come from UNDESA's estimates and medium variant projections for national populations in the Pacific between 1950 and 2100.

When the trajectories for change in the child population (0-14 years) are compared with those for the total population in the five clusters (see Figure 8) it is very clear that declining fertility is slowing growth in all clusters (Figure 17). Growth in the child population in the western Pacific cluster is much slower than growth in the total population but it is the only cluster which sees progressive increases in numbers of children in the population through to 2060. After 2060, numbers are projected to begin declining as the curve for the cluster's child population in Figure 17 suggests.

In three clusters (the northern Pacific, the French territories and the central Pacific) the numbers of children present in 2000 are larger than the numbers actually or projected to be present at the beginning of any subsequent decade through to 2100 (Figure 17). The child population of the central Pacific cluster peaked in 1990s, while those in the northern Pacific and the French territories peaked around 2000. In the eastern Pacific, numbers of children present in the population stay pretty static through to mid-century when they are projected to begin falling consistently below the number present in 2000.

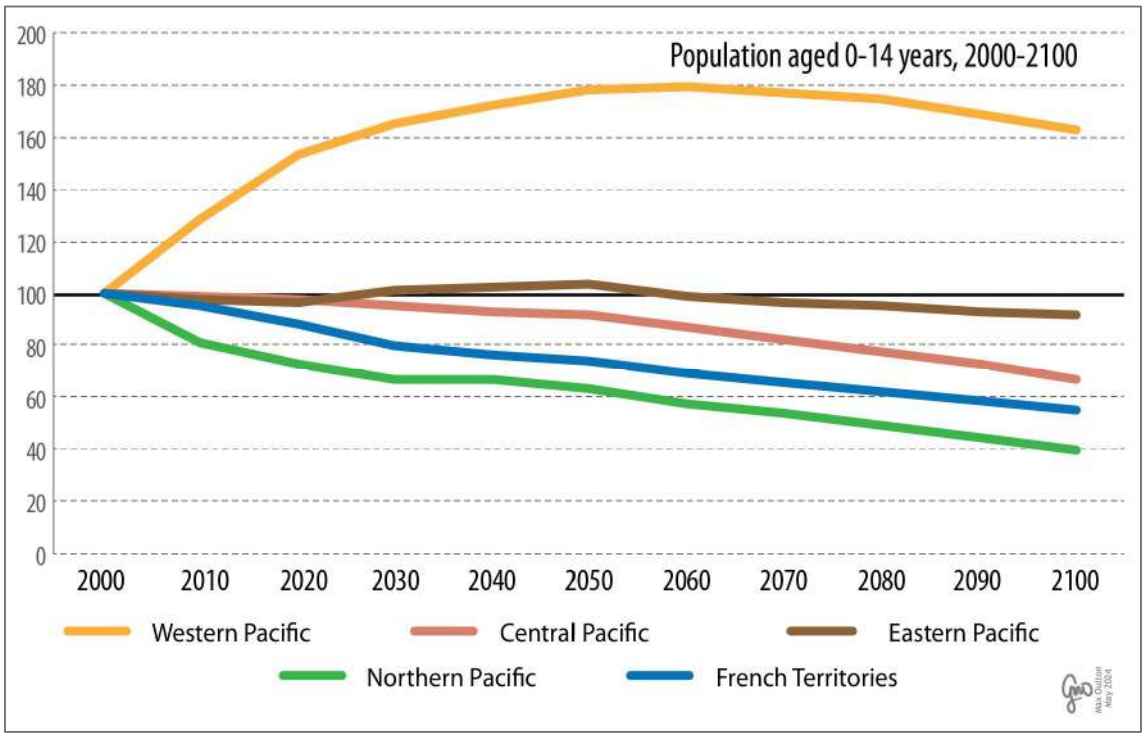


***Figure 17: Change in the populations aged 0-14 years in the five clusters,* 2000-2100, using index numbers: 2000=100**

Not surprisingly, given that children constitute the next generations of workers, these variable trajectories for change in the child populations of the clusters are reflected in the trajectories for the populations aged 15-29 years (Figure 18).

[432] The graphs use index numbers to represent the actual numbers in the populations of the five clusters at different years between 2000 and 2100. In all cases the number 100 is equal to the cluster's population in 2000. Where the curve of the line representing the population trajectory for a particular cluster goes above 100, the populations in subsequent years are larger than the one in 2000. Where the curve goes below 100 the populations are smaller than the one in 2000.

The numbers of youth in the western Pacific's population are projected to continue to increase through to the 2070s, reaching double their 2000 total by 2030. The eastern Pacific cluster's youth population is also projected to keep growing through to the 2070s, but at a much slower rate than in the western Pacific.

In the central Pacific, numbers in the youth workforce continue to grow slowly through to the 2040s, where they are projected to plateau at around 10% above the number present in 2000, and then begin to decline slowly, eventually falling below the 2000 total by the 2080s (Figure 18). The French territories also experience some growth in their youth workforce through to the 2030s, and then numbers start to decline steadily. In the northern Pacific cluster, numbers aged 15-29 in their combined population never exceed the 110,000 present in 2000; the projected trajectory for numbers in their youthful working age population is a progressive decline (Figure 18).

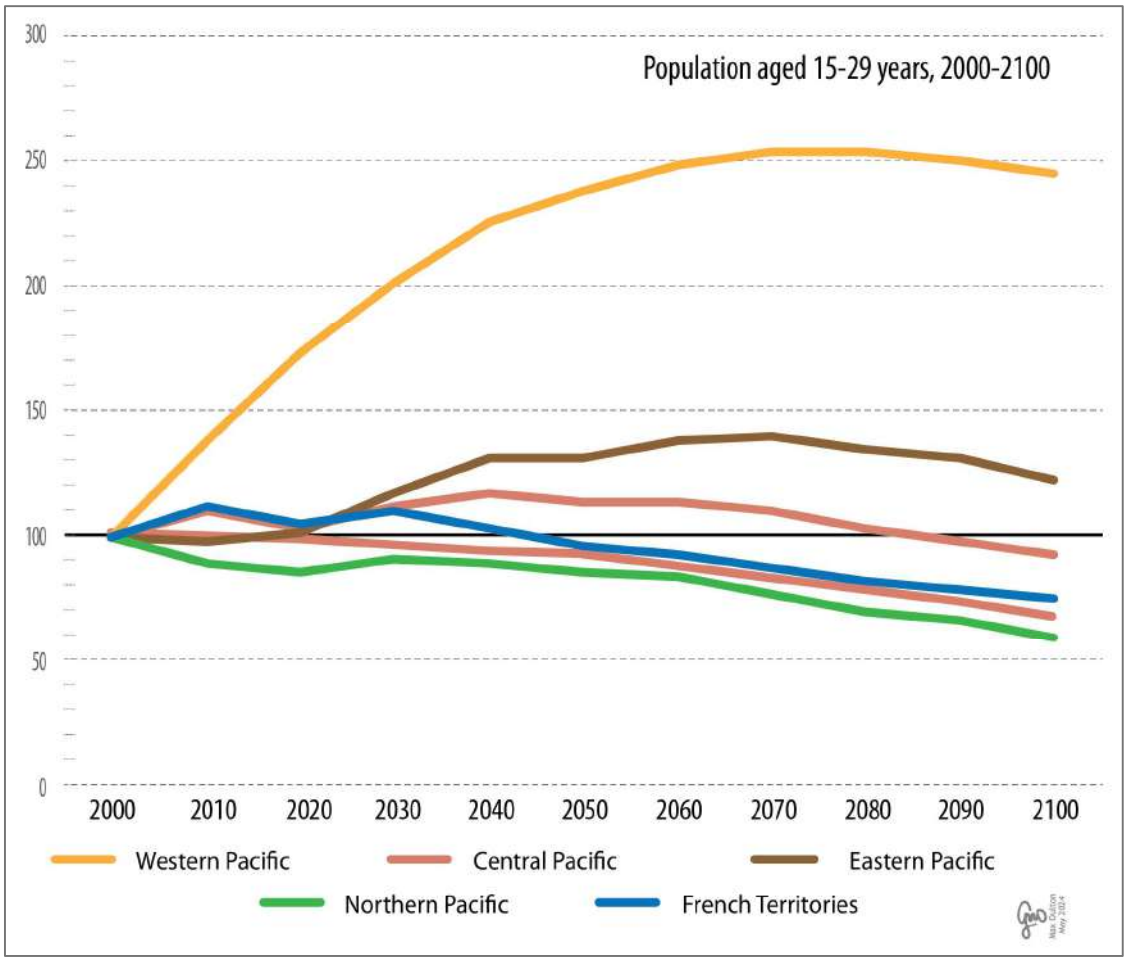


***Figure 18: Change in the populations aged 15-29 years in the five clusters,* 2000-2100, using index numbers: 2000=100**

The increasing numerical dominance of the western Pacific's youthful population is well known. The variable trajectories for the two components of this population in the other clusters are less well-known. The graphs provide a useful perspective on the dynamics of two youthful components of Pacific's populations that will definitely experience the impacts of climate change for most of their lives.

## Youth perspectives on future (im)mobility

**The previous section makes very clear that both the quantum and distribution of youth in the Pacific will be different in the future. Yet, like their parents, grandparents and ancestors before them, the current and future Pacific youth population will be confronted, to a greater or lesser extent, depending on their community, with the same interconnected factors which have shaped (im)mobility**.

One youth, imagining their future self, reflected:

> *Due to lack of land area or space in Red Beach I will not be living here ... I would relocated or migrate to another place. ... my grandchildren must attend formal education to be able to look after themselves and their family. (Red Beach Youth)*[433]

As recently reported, a poll of hundreds of scientists suggests there is every likelihood that the 1.5°C target in the Paris Agreement will not be met and that the planet is headed for at least 2.5°C of heating.[434] Such a scenario makes it increasingly likely that climate change impacts will exacerbate the existing pressures being experienced by today's youth on their localised water and food security.

This is reflected in the Mana Pacific Consulting family study on Gwailao Tribe of Ngongosila Island, East Malaita, Solomon Islands, which records:

> *Countless tales are told by the young tribe members describing their fathers that have to go out further and further because nearest havens where fishing grounds once where, have now been plundered to build walls to both hold the sea back and create stability for houses on the edge of the island's borders.*[435]

As we note in the section on hazards, the extent to which these impacts undermine localised food and water security is contingent on the capacity of communities to adapt, including the extent to which traditional knowledge and practice can meet these challenges. It is important to recognise that traditional knowledge and practice is not ossified. It has evolved over centuries and will continue to evolve. **Existing practice will be adapted, and new practice may well emerge to meet future environmental challenges and become tomorrow's 'traditional' knowledge and practice. Yet, given the current trajectory of carbon emissions, impacts of climate change-related hazards will, alongside other hazards, increasingly intrude on (im)mobility decision-making.**

**What this means is that, in the western Pacific, many more young people will be trying to live on their own land in inland villages under increased climate change conditions. Increasing opportunities in towns, freeing up agricultural land, and increasing pathways to travel abroad, must therefore be important policy objectives.**

In relation to the eastern Pacific, the survey revealed that ~ 50% of those aged 18-24 'strongly agreed' or 'agreed' that climate change would mean that their family will need to leave home at some point in the future. Those in the 25-34 year age group (which they note can still be considered as youth in Tonga) showed the strongest belief (~30% strongly agreeing) of all age groups. The team also note that the youth engaged in a workshop "overwhelmingly" indicated a preference to move to New Zealand over other overseas destinations, if they 'had' to choose. However, the majority said that they were not yet ready to leave their family or their heritage and move to New Zealand now. Rather, their preference was to adapt.[436]

What also emerges from the research is that youth across the Pacific display a range of attitudes towards (im)mobility. Any discussion of future (im)mobility of today's youth is necessarily connected to both ancestral and living memories of mobility, and shape future possibilities.[437] While, as youth, they may not be formally

[433] Ng Shiu, R. et al. (2024b). 24.
[434] Carrington, D. World's top climate scientists expect global heating to blast past 1.5C target *The Guardian (8 May 2024)*. Website. https://www.theguardian.com/environment/article/2024/may/08/world-scientists-climate-failure-survey-global-temperature .
[435] Sanga, F. (2024). 5.
[436] Vaioleti, L. et al. (2024). 64.
[437] Underhill-Sem, Y., et al. (2024b). 9.

involved in making (im)mobility decisions, they are kept informed and their knowledge and lived experience of such decisions by elder generations will necessarily be drawn upon to inform decisions they make as adults, and as parents and grandparents as they age.

Like elder generations, Pacific youth also are attached to the land, ocean and waterways of their 'place' and from which they draw a sense of wellbeing by staying in that place, connected to family:

> *Living near the sea also brings good life for us because we have access to fishing. (Ambu)*
>
> *Life in Bareho is very easy, if you want to go to the garden you can easily paddle for a few minutes to the mainland to do gardening and access food. That is what good life means. We access to free water and if we want to eat fish then we can easily go fishing for free and eat our catch rather than pay for it. This is why I live a good life. (Bareho)*
>
> *As a youth from Kiribati, a good life means having a secure future with access to resources like water, enjoying the beauty of our islands, and feeling confident that our community is resilient and well-prepared to face environmental challenges. (St John, Betio)* [438]

Others are alert to the need to move, for education, for work and to allow others in their family to remain in place:

> *My thinking is that I must be diligent in my education so that I can get knowledge and have a career so that I can have a good life. Later on I can have a good life with my wife and children. Money is important so when I work I will have money to support my family. (Matupit)*[439]

Youth workshops in Samoa and Tonga also revealed a range of attitudes, with some envisaging a future in Samoa, others abroad:

> *My hope is to move out of the country and work and send money to family"*
>
> *[My hope is for] our dreams to become a reality - move to Australia for a better job and education*[440]

The research shows that youth were actively engaged in community discussions and understood the non-economic losses due to climate change. This was vividly demonstrated at a youth workshop held in Apia. The University of Waikato record:

> Some groups when asked to describe their feelings or thoughts about the future chose to draw a picture. In the workshop held in Apia, one group shared a detailed drawing of a tree. One half was lush and thriving, which was said to represent Samoa in current state. The other half was void of all leaves, its roots dry and contorted. Another group depicted people holding hands and gathering around a large crucifix at the centre of the page.[441]

The University of Auckland conclude from their youth engagement that "youth from communities already facing increasing threats to the habitability of their lands appear more cognisant of what was at stake."[442]

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[438] Ng Shiu, R. et al. (2024b).
[439] Idem. 22
[440] Vaioleti, L. et al. (2024). 100.
[441] Idem. 110.
[442] Newport, C. et al (2024c). 42.

*You cannot live a good life when water is not safe. (Aranuka)*

*Having access to proper sanitation, water and helping women in the community who are struggling. Because currently, they have to walk to the valley to fetch water for drinking and washing. (Aruligo)*

*Having a good house where access to water, food and everything including having access to proper playing ground. (Ambu)* [443]

Recalling the collective and communal building blocks of the Pacific way of life, the team note that "two common themes across all youth workshops were the need to have a 'good job' and the youth's commitment to their families":

*Difolopmen hem happen long community*
[Development takes place within the community] (Papae/Kolosulu, youth member)[444]

Such perceptions of both risk and loss of connection to people and place will necessarily be factored into the decisions they make about whether, when and where to move, and for how long.

**For those contemplating international movement, the research indicates that the pathways that today's youth contemplate are linked to the choices they have based on the cluster in which their country falls**. For example, youth from Aruligo and Red Beach reported aspirations to participate in Australian and New Zealand labour schemes for better opportunities.[445]

Pacific youth are, like their parents, grandparent and ancestors, steeped in the everyday life which has allowed their families and communities to thrive. They, too, have a multifaceted connection to place. But they face a future in which the impacts of climate change will likely feature as a context in which they have to make decisions about where to live their lives. Many will continue to move to allow others to stay. Many Pacific youths are nestled within transnationally distributed families, and like their parents, and possibly grandparents, may circulate between the various 'places' of their family at different times, for different reasons. This feature of Pacific family life is not evenly distributed and responding to this is one of the main policy implications arising from the research as a whole. It is to these that we now turn.

# *POLICY IMPLICATIONS*

The main policy implications which emerge from the rich evidence and analysis provided by the research are now outlined. The aim is not to offer detailed policy recommendations, but instead to highlight key findings about current and future (im)mobility that are critical to policy development in order to promote anticipatory public governance.

## Climate change-related (im)mobility is already a feature of the regional landscape

One of the most important findings from the research is **that climate change-related (im)mobility is already a present reality, making it a current policy issue rather than a future one.** The research demonstrates that concern about the current and anticipated impacts of climate change are beginning to influence decisions at the individual, family, household, and community levels about whether, who, when, and where to move away

[443] Idem. 23.
[444] Ng Shiu, R. et al. (2024). 35.
[445] Ibid.

from their 'place'. While climate change is often not the sole context for these decisions, it is becoming an increasingly important factor alongside more typical considerations of socio-economic betterment.

In the section on the Pacific hazard scape, the report notes the significance of the indication by the IPCC in the Sixth Assessment report that there is now more than a 50% chance that the 1.5°C temperature threshold will be consistently exceeded within the next decade or two, especially for the PICTs comprised entirely of coral atolls and reef islands.

The clear implication of the research is that, **as Pacific peoples continue to experience environmental changes in such a warming world, their lived experiences will increasingly factor climate change into household and community decision-making processes.** It is reasonable to expect that, should the localised impacts of such climate change undermine food and water security at the household and community levels, these impacts will increasingly feature in decision-making, including a decision to move some or all family members to another location.

## Anticipating increasing international mobility

Some of the population movement in response to climate change is linked with temporary labour mobility schemes in Aotearoa New Zealand and Australia where the movers take advantage of opportunities to earn much higher incomes than they could if they remained based at home. These incomes, in turn, are used by some to support investment in strategies to increase the resilience of their families to actual or potential adverse impacts of climate change.

There is also movement in response to climate change linked with Aotearoa New Zealand's quota-driven residence visa policy, the Pacific Access Category (PAC). The large numbers involved annually in the ballots for PAC residence visas are a crude indicator of the level of interest in the participating countries in opportunities for families to make a livelihood overseas. Australia's very similar quota-driven Pacific Engagement Visa (PEV) is likely to generate a similar response in participating countries.

The PEV covers a much wider range of countries than the PAC, including all of those in the western and central Pacific clusters. It provides all citizens of Papua New Guinea, Solomon Islands and Vanuatu with their first opportunities to be part of a residential migration programme in Australia. It is a scheme that has been designed with a view to growing Pacific diaspora communities in Australia, especially communities from the western and central Pacific. [446]

**It is not possible to say how much of the current population movement between Pacific countries and Aotearoa New Zealand and Australia is in response to climate change but the three research teams all made reference to discussions at the family and community level about the importance of temporary and long-term international mobility as a strategy for adapting to the impacts of climate change in Pacific communities**. The Australia-Tuvalu Falepili Union, with its associated provisions for an annual quota of residence visas for Tuvaluans seeking opportunities to live and work in Australia, directly recognises "special and unique circumstances faced by Tuvalu and that climate change is Tuvalu's greatest national security concern".[447]

**Surveys in Tonga and Samoa as well as in their diaspora provided clear evidence of the growing impact of climate change on decisions to move to new locations within countries and overseas within the past five**

[446] See Dingwall et al. (2024). Accessible at: https://www.abc.net.au/news/2024-06-07/pacific-engagement-visa-ballot-diaspora-migration/103936844

[447] For the full text of the Australia-Tuvalu Falepile Union can be found at: https://www.dfat.gov.au/geo/tuvalu/australia-tuvalu-falepili-union-treaty

**years, as well as in plans for moverment over the next five years**.[448] As opportunities for citizens of Pacific countries to qualify for longer-term temporary migration visas (like the four year PALM visa and Aotearoa New Zealand's Accredited Employer Work Visa) become more widespread applications from countries in the western, central and eastern Pacific clusters can be expected to increase. **If Aotearoa New Zealand was to allocate PAC visa quotas to a wider range of countries in the region, including those in the western Pacific cluster, the response, as measured by applications in the ballot process, would be immediate and significant, based on the experience of PAC-eligible countries in the central and eastern Pacific clusters.**

There is no shortage of people looking for opportunities to move to Aotearoa New Zealand and Australia in the Pacific region and the numbers seeking these opportunities will only increase over the coming decades. **Inevitably the impacts of climate change in the region are going to increase pressure on the two metropolitan countries on the Pacific's southern rim to free up opportunities for short-term and long-term circulation of Pacific peoples as well as possibilities for residence for families in the overseas part of Pacific transnational societies.**

While acknowledging that there will be an obvious and logical international mobility response to the impacts of climate change it must be stressed that for countries like Papua New Guinea, Fiji and Solomon Islands the great majority of their populations will remain resident in their own countries, at least through to the end of the current century. The sheer size of their resident populations, and the contributions that momentum-led growth continues to make to their populations, coupled with preferences by the majority of citizens to stay in their countries rather than moving overseas, will ensure that international migration does not make the home country the base of the smaller component of their transnational society.

These countries, which are home to over 80% of Pacific peoples, will not repeat the experience of the much smaller populations of the Realm countries which have had ready access to citizenship and residence in Aotearoa New Zealand and, by extension through the Trans-Tasman Travel Arrangement, to residence in Australia. **Dealing with the impacts of climate change for the great majority of peoples from countries in the western Pacific cluster as well as Fiji will be something that is navigated within countries, with the support of proportionately small but growing diaspora.**

## Addressing the Driver of (Im)mobility

The research has also shed valuable light on how interdependencies between local population pressures, land and marine tenure, and water and food insecurity intersect at the household level and drive (im)mobility-related decisions and will continue to do so.

**Mobility-centred policy will therefore need to take account of the interdependencies between all three factors and their intersectionality at the local scale**.

However, the potential for policy interventions to influence each factor, and in turn influence decision-making, is variable both generally and at the national level. For example, land and marine tenure systems can, in principle, be influenced through legislative change over the short term yet, in practice, to do so is not an easy exercise given the extent to which existing tenure arrayments are grounded in customary rights and systems of governance and will likely lead to conflict and tension.

What the research highlights is that, in the context of mobility at scale, engagement with community leaders and supporting community governance structures and processes which aim to increase the flex of existing

[448] See Vaioleti, L. et al. (2023b) and Vaioleti, T. et al. (2024).

tenure to absorb population at scale is a more sustainable direction of policy travel.[449] However, in some national contexts, even maximising the flex within tenure arrangements may be an insufficient policy response given the total amount land available relative to the future demographic context. At the sub-national level, context is also important.

As regards localised population pressure, while the research shows how migration policy settings can influence population pressure at the local scale over the short term, such as through move-to-stay decisions, changes in population trajectories at the national scale will only occur at longer timescales. While migration policy can play its part here also, policy interventions implemented in the short term which promote sexual and reproductive health in PICTs must be included as part of the overall policy mix to dampen down population pressure over time at household and community levels.

Arguably, of the three factors, addressing water and food insecurity will be the easiest to influence though policy in the short term. Across the region, there are a plethora of projects addressing these issues. While critical, these are only part of the policy puzzle in terms of addressing (im)mobility in the context of climate change. Such interventions must be developed and implemented though the lens of how the project outputs will intersect with other factors at the local scale. For example, in some national contexts, limited land and even relatively small increases in local population may limit on the extent to which improvements in water and food security will enable people to choose to remain in place.

Addressing these factors holistically, rather than in isolation, necessitates a standing coordination mechanism across policy sectors.

## A new model is needed to develop more (im)mobility-sensitive policy

There is a need for policy development to shift from the traditional approach of viewing the Pacific in terms of the three subregions of Melanesia, Micronesia, and Polynesia toward a more mobility-relevant framework. Research into population dynamics from 1950 to 2100 at the sub-regional level suggests that grouping PICTs into five clusters based on contemporary and historical demographics, as well as colonial and post-colonial connections, provides a more relevant sub-regional grouping for analysing the impacts of climate change. This approach better acknowledges the variable transnational dimension to contemporary Pacific populations, which all research teams have carefully considered in their studies of families, communities, populations in particular countries, and the overseas components of transnational populations.

Recognising the diversity in contemporary and future population trajectories at regional, sub-regional and national levels is essential. Equally important is acknowledging the significant connections that island residents have with their kin and others across different parts of their country, other Pacific countries, and beyond, particularly on the Pacific rim. The nature and significance of these connections, especially as lives are increasingly impacted by climate change, are the focus of this synthesis of findings from the research conducted by the three teams.

## Population trajectories matter

The research has emphasised the need for nuanced approaches to policy responses to the implications of climate (im)mobility in the Pacific – nuanced approaches at the sub-regional level, the national level and the community level. The research also demonstrates not just *variability* at all scales of inquiry, but also that variability is increasing, due in part to the different trajectories of population change.

[449] See discussion on community level decsion-making earler in this report and Underhill-Sem, Y., et al (2024a). 6-10 and Mafile'o, T. et al. (2024a). 33.

It is critical that policy engage with the very different population structures and trajectories across the Pacific. This means engaging with the western Pacific where most of the future, natural population growth in the region will be occurring. This is especially the case regarding the youthful population – the children and the youth in the labour force. As we note, in 2020, just over 3 million (83%) of the region's 3.6 million people in the younger (15 – 29) working age population are living in the western Pacific.

The policy implications for youthful populations in this cluster in a world that is being heavily impacted by climate change are very different from the implications for other populations, like the ones in the northern and French territory clusters for whom greater options for movement already exist. Increasing the opportunity of youth of the Western Pacific cluster to move abroad for study, including through the provision of scholarships, and/or to work must be factored into policy development. Polices allowing transition to residence or standalone pathways to residence will be critical to the establishment over time of a greater volume of transnationally distributed families in this cluster which feature socially and economically entrenched members in in other countries.

The importance of considering population trajectories is not limited to the western Pacific cluster. As we have also noted in the section on the Diverse Pacific, international migration has played a significant role in shaping the population pyramids in other clusters. Turning to the much smaller populations of Tuvalu and Kiribati in the central Pacific cluster, a population projection exercise that was carried out some years ago for a conference on climate change and migration in the Pacific assessed what might happen to the populations of Kiribati and Tuvalu if the Pacific Access Category was increased at five year intervals between 2020 and 2050.[450] In Tuvalu's case, one scenario included a Pacific Access Category (PAC) quota of 250 a year, which is not too different from what is proposed under the Falepili Union arrangement. In small populations, such losses each year quickly compensate for any momentum growth in the population, and it is not long before the population starts to decline numerically. Such a policy step would, however, need to be carefully calibrated and developed in consultation with the government of the PICT, and affected communities who will be concerned with the implications of such a move.

It is not just population trajectories in the Pacific which are important, but also population trajectories within Aotearoa New Zealand (and other countries on the Pacific rim). The recent census data shows an increase in the number of persons identifying as having Pacific ethnicities in Aotearoa New Zealand. A significant number are in the younger population cohorts. This momentum led driver of future growth will result in an increasingly larger footprint of the Aotearoa New Zealand situated members of transnationally distributed Pacific families.

The Aotearoa New Zealand component of transnationally distributed Pacific families from countries with small domestic populations will become the dominant components of their combined domestic and overseas populations. In the case of the large populations in the western Pacific this shift in balance in the distribution of national and overseas-based population components is not going to happen — the national populations will remain the base for the great majority of the population.

There will continue to be very different patterns of population distribution in terms of shares "at home" in their countries, and shares overseas, and acknowledging this variability, in itself, is important for policy makers.

[450] See Bedford, R. et al. (2016) Population change and migration in Kiribati and Tuvalu, 2015-2050: some hypothetical scenarios, *New Zealand Population Review* 43: 103-134.

In the eastern Pacific overseas destinations are already the base for the larger share of the aggregate Polynesian population. In Fiji, the Melanesian country with the largest overseas diaspora in the central Pacific, the home country remains the base for the great majority of i-Taukei and Fiji Indians.

So too, with the upwards population trajectory of Māori. As both populations increase within Aotearoa New Zealand in coming decades, deepening engagement with Māori will become even more critical, a policy implication issue we discuss separately below as an Aotearoa New Zealand-specific context of relationality.

## Navigating relationality as a key policy framing

Perhaps the most critical implication for national-level policy is to develop and implement policies through the lens of relationality to others and other places, at different spatial scales.

Recognising the multifaceted dimensions of relationality within Pacific communities is essential for understanding the complexities of climate-related (im)mobility. Interpersonal connections, cultural exchanges, interdependence, and environmental interconnectedness all intersect to shape (im)mobility scale, patterns and impacts/experiences. By understanding these nuanced interactions, policymakers can develop more effective and culturally sensitive interventions to support communities affected by (im)mobility, particularly as climate change challenges intensify.

**Navigating relationality:**

— **requires policy interventions to orient around the multi-faceted and dynamic nature of place**. Both within and across national borders, relationships to land and people are influenced by customs, values, and histories of mobility that have allowed individuals, households, and communities to move and/or stay for generations. This has implications for policies related to sustainable economic development, disaster risk reduction, and climate change adaptation. What the research emphasises is that **different actions are needed in relation to more than one location in relation to the same family and/or community**. For example, improving housing conditions for Pacific families in Aotearoa New Zealand or in other destination countries would be accompanied, where required, by improved housing conditions the home island, for example through disaster risk reduction and climate change adaption measures.

— **means recognising that families have traditionally been and will continue to be 'first responders' when disasters strike, and providing primary support for short- or long-term stays.** Marriage and employment in other parts of the country will remain strategies to address localised population pressure, land tenure, and food and water insecurity. Over time, new relationships to people and places will emerge, creating further opportunities for future mobility. Such relationality needs to be considered in policy development.

— **requires policy to consider how spirituality and faith influence attitudes towards and experiences of (im)mobility**. Consultation with churches and faith-based organisations should be conducted to ensure that indigenous spiritual beliefs are taken into account.

— **underscores the importance of relationships and relationship management in the context of relocations**. National authorities must prioritise this aspect over both short and long-term time horizons. The research suggests profound implications for national policy regarding relationality to people and places that extend beyond national borders**.**

— **demands a place-based approach to policy relating to loss and damage be taken**. It is only though understanding the multifaceted relationship of Pacific peoples to place – in all its dimensions – that the true scale of loss and damage arising in the context of climate change-related (im)mobility will become apparent.

## Recognising and Operationalising Relationality with Māori

Recognising and operationalising relationality with Māori in policy is fundamental. This requires deepening engagement with Māori.

The research for this project, which included an examination of the impact of future mobility through the lens of Te Ao Māori and obligations under Te Tiriti o Waitangi/The Treaty of Waitangi, has uncovered new insights into the Māori experience of mobility and of Māori and Pacific relationships regarding supporting mobility and explored some of the potential impacts of future climate change mobility for Māori[451].

This research has also shown the potential for more focussed and deliberative talanoa with Māori and other stakeholders in Aotearoa New Zealand to begin to scope out the complex sets of risks and opportunities in a future of higher climate mobility for the region and for Aotearoa New Zealand as a country. The wisdom that is contained in *Six Kōrero* is missing the voices of rangatahi. Research by all teams has made it very clear that there is an increasingly urgent need for an ongoing climate change and mobility awareness campaign to begin to prepare minds, and support practical family, village and national planning and prioritisation around possible climate mobility futures at differing scales and/or with different triggering hazards. Key insights from the research, as well as a view of possible policy implications are as follows.

### Relationality equally important to Māori as it is for Pacific communities.

**Policies that understand and which are sensitive to the historical relationship between Māori and Pacific peoples will provide a context in which other policies relating to climate mobility and Māori relationality to Pacific can be framed.** This is important given that cultural values have underpinned both Māori and Pacific peoples to adapt to change over time resulting in a foundational cultural resilience and cultural cohesion.

Equally, connections to place and land are connections that are spiritual and physical for both groups. Marae or meeting spaces within tribal boundaries stand as testament to the importance of place including being places of commune, places of identity, places of support and places of resilience. In a climate mobility context, marae could play a critical supporting role in the initial and ongoing response as well as possible longer term integration support.[452] The marae as a place where tikanga Māori is practised can also provide a place where innovative ideas and opportunities to further both group's aspirations can be tested.

### How decision-making is done is critical.

**Future planning for Pacific climate mobility should engage Māori from the start and be equally led by Māori, Pacific peoples and the Crown in the spirit of inclusion with discussion and decision-making based on Māori and Pacific values. Engagement could be at both a 'national' and iwi or hapū level, and testing or piloting of approaches could occur at a local/hapū/whānau level initially.** Decision-making should also include space for bilateral discussions between Māori and Pacific as the sharing of needs, aspirations and lessons learned can push thinking and the imagination to the boundaries of what is possible so that all risks and opportunities can be explored and tested.

There will be a broad diversity of views to navigate for Māori i.e. there is not one 'Māori view' and a great diversity of Pacific perspectives and priorities exist within Pacific peoples as well.

[451] See, Morrison et al. (2023); Newport, C. et al (2024).

## Land is a Central Dimension to Address.

The mana of Māori must be protected throughout planning and decision-making around land and Pacific climate mobility. In any planning or decision making, mana whenua groups must be consulted on decisions that may impact their rights. The Treaty of Waitangi and its principles must be central for the protection of Māori land, and to give effect to kaitiakitanga. Further work could explore the principles of the Treaty of Waitangi specifically in the context of climate mobility. Both the Crown and Māori would benefit in progressing efforts to reduce the barriers to land access and utilisation by Māori of Māori land. Other land related risks such as conflict from unequal power dynamics of landowners versus 'settlers' will need to be mitigated.

## Learning from Māori Climate mobility within Aotearoa New Zealand.

Māori climate mobility is also a reality and valuable lesson have been learned. These lessons can be applied for future Māori and Pacific climate mobility including leveraging lessons and experiences on matters to prioritise and matters to avoid. The sharing of Mātauranga Māori, local knowledge and enduring and well-tried practises will support future processes and can be shared at a. family, community, national and regional levels. 'No regrets' efforts could include prioritising the sharing of knowledge systems and data on experiences and addressing data sovereignty concerns or issues. Sudden-onset hazard-related mobility scenarios for those in the Pacific may happen in concert with similar relocation context for Māori (and others) in Aotearoa New Zealand. Planning should consider a range of scenarios or contexts for regional mobility and local needs might be prioritised or balanced under shared and intensified climate stressors.

## Māori in Partnership with Pacific Peoples Shows Promise.

**Existing Māori-led or Māori-Pacific led organisations could be valuable assets for improving future Pacific mobility outcomes in Aotearoa.** There would be further 'best practice' examples of partnerships that can be supported and scaled e.g. RSE partnerships and accompanying support. However, this must be led by better understanding the desires and wishes of Pacific peoples, as well as their broader capability sets and skills that have, and could develop, with targeted investment e.g. around training or education. Māori-Pacific enterprises that could support integration and mobility outcomes, and their priority support needs will need identification.

## Differentiated scale and engagement with Māori.

**Given that the research indicates that climate (im)mobility in the next two to three decades will likely be occurring at a family level, engagement with Māori as hapū and iwi entities under this scenario is likely to be minimal if at all. Engagement between Māori and Pacific peoples is more likely to be where personal lives, interests and values intersect and is more likely to occur in the absence of support for transnational communities and Pacific social service providers.** Future policy development could consider how, at a community level, Māori social service provision could be extended to include and provide information for Pacific families. In some Māori communities such as the Ngāti Toa/Tokelau relationship and the Murihiku/Bluff communities, iwi have been deliberate in their approach to supporting all families who live in their rohe.

Nevertheless, that mobility to Aotearoa New Zealand may occur at a larger scale ( for example, multiple or whole-island communities) sometime in the future and involve guidance of both the Pacific governments and the New Zealand government cannot be entirely ruled out, it is important to give early thought to the appropriate structures to be established to allow for meaningful dialogue on priority matters between Māori, Government and Pacific states, including legal, cultural, social, economic and other priorities. Should larger-scale mobility, arise mana whenua must be consulted on land-related decision-making, and options should

be tested with Māori ahead of time on agreed frameworks that will be necessary under different circumstances. In the context of a sudden-onset hazard scenarios, consultation with mana whenua on what 'bare minimum' engagement might look like for inclusive engagement and Māori and Pacific leadership would be necessary. Appropriate structures should allow for meaningful dialogue and with mana whenua at the local level.

Irrespective of scenario and scale, in mitigating risks while realising opportunities, bold and creative thinking should be promoted by all involved including Governments, social service providers, hapū and iwi collectives and Māori and Pacific social service providers as well as Māori and Pacific enterprises. Resilience may be found in opportunities for Māori businesses and enterprises already engaging or employing Pacific people or Māori-Pacific enterprises to 'flex' employment and support more people into work as needed.

## Empowering communities

As noted in respect of 'the driver', comprehensive and coordinated responses to address the complex and evolving challenges posed by climate change on food and water security in the Pacific will be the factor most able to be influenced in the short-term.

Pacific peoples have lived with the impacts of cyclonic winds, king tides, droughts, and volcanoes for centuries. **Stories of ancestors not only coping but thriving despite these challenges highlight actionable, indigenous technical knowledge, and a culturally rooted driver of emotional wellbeing.** This wellbeing stems from a sense of strength derived from a direct connection to ancestors through storytelling.

**Supporting community-based everyday action should thus be a key focus of policy. In terms of (im)mobility, this has multi-scaled policy implications**. **Communities possess instinctive knowledge for coping with environmental change and need direct support to address the impacts of climate change through their everyday actions.**

The research reinforces the need to integrate indigenous knowledge and traditional practices, suggesting that projects and programmes should move away from technical language like "adaptation" and "resilience." Instead, empowering language that acknowledges communities' existing knowledge and skills, should be used. This approach does not exclude the value of technical upskilling or non-traditional knowledge, nor does it diminish the importance of national policy statements like National Adaptation Plans. Rather, it emphasises that projects and programmes should focus on enhancing the effectiveness of existing knowledge, rather than teaching Pacific peoples "how to adapt" to environmental change or "be resilient."

### Localised policy intervention

Relationality to place requires recognition that local contexts are the primary sites for policy intervention. Engaging with existing community structures, where mobility-related discussions already occur, is essential. The research shows that community leaders are deeply attuned to the issues raised by climate change and how these impact the interdependent factors driving (im)mobility decision-making at the household level. Empowering these leaders through improved access to relevant and up-to-date information in an accessible form should be a key policy goal. Given the increased funding coming into the region recently within the context of increased geo-strategic focus on the Pacific, improving climate finance literacy to enable community leaders to better access bilateral and multilateral financing mechanisms will also be important.

This approach requires engaging civil society and other local actors who are well-positioned to inform communities about mobility opportunities, should they choose to move, as well as supporting those who opt to stay. For instance, local business development bodies can provide advice and support for starting or

developing local businesses with funds from labour migration. It also involves including communities in the design of policies and programmes to address the health and wellbeing implications they face.

### Empowering and supporting women

It is well recognised already that policy must be cognisant of how climate change disproportionately affects women and girls, exacerbating existing inequalities and vulnerabilities and limiting their access to resources and opportunities.

What the reach demonstrates, however, is the important role of women in disaster preparation, response, and recovery. **The status of woman as agents of everyday resilience at the household and community level warrants more policy attention in the context of climate (im)mobility.** The roles women play in decision-making, social connectivity, and cultural preservation highlight the necessity of their active involvement in preparing for future mobility due to climate change.

Ensuring women's preparedness for such mobility is essential, and policies need to support their existing climate resilience and leadership roles. Furthermore, it is critical to address barriers and provide support for facing climate mobility and climate (im)mobility. Economic impacts, such as income loss from traditional crafts and disrupted access to resources, should be mitigated through alternative income-generating activities and improved market access.

**Mental health support is also vital.** Women need support to navigate anxiety related to social status and pride. Policies should safeguard women's social roles and status post-relocation, recognising their influential roles in decision-making at family and community levels. Furthermore, it is crucial to consider the diverse needs of women and the elderly, particularly regarding inequities in water access, gender-based violence, and fishing practices.

**More broadly, special attention is also needed for community members living with disabilities and those from rainbow communities**, although their impacts from climate-induced mobility require further exploration due to limited engagement.[453] As we move forward, it's imperative to address these complexities inclusively to build resilient and supportive communities for all.

## Loss and Damage

What the research suggests is that **a more appropriate framing for what is currently described as 'non-economic' loss and damage is 'place-based loss and damage' as this better directs attention to both the nature and scale of potential loss and damage being experienced by Pacific peoples due to the impacts of climate change.**

Positioning loss and damage to 'place' under the "non-economic" label involves a false binary. While this framing has been necessary to ensure that economic losses are not privileged in the loss and damaged debate, and that sight is not lost the profound impact that climate change is having on indigenous cultures and ways of life, it needs reframing.

In 2023, after a process stretching back to 1991 when Vanuatu on behalf of the Alliance of Small Island States (AOSIS) suggested using insurance-like remuneration for countries experiencing rising sea levels, Parties to the UNFCCC finally operationalized the Loss and Damage Fund on the first day of COP28. It was a breakthrough even though developing countries have been critical of aspects of the decision, and long-term

[453] Ng Shiu , R. et al. (2024). 7.

financing of the fund is not guaranteed. Importantly, included in the scope of the fund are "finance for addressing a variety of challenges associated with
the adverse effects of climate change, such as climate-related emergencies, sea level rise, displacement, relocation, migration,..". [454] It remains to be seen how the fund is operationalised in practice, but re-orienting discussion around the concept of 'place' – in all is multifaceted dimensions – will bring into sharper focus the various challenges PICTs face than simply categorising such loss and damage as non-economic. Whether remaining in place in the face of climate-related impacts on the local enviroment and bioversity, or having to rebuild a sense of place elsewhere for communities who have to move from their ancestral place, loss and damage will be experienced to a greater of lesser extent along one of more of these dimensions by Pacific peoples across countless sites of settlement.

## Supporting and Engaging Pacific Transnational Families in Aotearoa New Zealand

**While this section is principally focussed on what the research reveals about developing (im)mobility-sensitive policy in Aotearoa New Zealand, the implications for policy are relevant to all national settings where there exists transnational families. Fundamentally, in terms of Pacific peoples, this is the base policy unit and one which we believe is optimally viewed in any particular domestic policy context as 'family beyond national borders'**

The section on 'the Diverse Pacific' makes very clear that the prominence of such as a policy context in Aotearoa New Zealand and other countries varies, and will continue to vary, depending on the sub-regional mobility cluster engaged. Nevertheless, the section on 'the Connected Pacific' is equally clear that, in context of climate change-related (im)mobility, understanding transnationalism provides an essential lens through which to view the resilience and adaptability of communities facing environmental uncertainties, including through circular migration, thus informing appropriate policy responses. It underscores the blend of local and global strategies employed by communities to ensure their survival and continuity in a rapidly changing world. The teams' fieldwork and analysis which underpin this report are singular in identifying that policies and governance frameworks in the future need to accommodate the unique features and needs of transnational communities.

### Conceptual implications

The concept of a 'mass arrival' commonly features in debates around migration policy settings in destination countries. New Zealand is no exception. The Immigration Act 2009 contains special provisions for a 'mass arrival', defined as constituting a group of more than 30 persons who board on the same craft or groups of craft not constituting a scheduled international service ( i.e. irregular arrival).[455] While these provisions are unlikely to apply to Pacific migration, the idea of a mass arrival of persons whose home island may become uninhabitable is a feature of contemporary discourse around migration to other countries for populations of so-called 'sinking islands'.

**What the research suggests, however, is that from the perspective of Pacific peoples: (a) the 'mass' in a 'mass arrival' is at the family or community scale; and (b) will most commonly happen at an individual or household level over an extended period of time in the coming two or three decades rather than all at once at a community or island scale (although the latter cannot entirely be ruled out at particular thresholds of future climate change over longer time horizons).**

[454] UNFCCC. ( 29 November 2023)Conference of the Parties serving as the meeting of the Parties to the Paris Agreement FCCC/CP/2023/L.1 Annex 1 at 6. At https://unfccc.int/sites/default/files/resource/cp2023_L1_cma2023_L1_adv.pdf
[455] See seections 9A and 317.

**In other words, the 'mass' arrival in Aotearoa New Zealand of an increasing number of Pacific people in the context of climate change requires the specific attention of policy at the family and community scale both in New Zealand and in the home island. This because of the impact such 'arrival' will have on other members of the transnationally distributed family – both those who may remain in the home island as well as those already present in Aotearoa New Zealand or other destination Pacific country. While this does not obviate the need to think about what arrival at larger scales might mean, it is critical that policy does not lose sight of the family and community scale which is likely to continue to dominate scale and pattern in the coming decades. This is made more critical given the indication in the research of Aotearoa New Zealand being a preferred overseas destination for some Pacific populations.**[456]

## Institutional implications

A further critical implication emerging from the research is that **it is artificial and out-of-keeping with the reality of transitionally distributed families to maintain a strict binary of domestic and foreign policy domains**. This is not to say that policy responsibility cannot not be allocated between agencies. Rather, it is to recognise that the transnationally distributed family – albeit of differing configurations – forms the base unit of Pacific society and the Pacific economy in Aotearoa New Zealand. This implies that positive outcomes for families are more likely where cross-agency and even cross-border policy networks are maintained where they exist, established where they are not, and supported on an ongoing basis in either case.

Further, it is not simply relationships within or across governments which matter in terms of developing (im)mobility-sensitive policy. As noted already, community-level organisations such as business associations, educational and faith-based organisations serve as important connectors of populations distributed across borders and channel information, material and spiritual support in ways which influence decision-making at the household and community level. They need to be engaged with both in terms of developing policy and as an object of policy.

The need to deepen engagement across national jurisdictions requires institutional arrangements that support and engage with the Pacific diaspora in a more coherent manner. The research has highlighted the recent establishment of a Diaspora Relations Unit in Samoa, which is still in its relative infancy. As of late 2023, the Unit has a database of around 1,000 people and a social media presence to promote and celebrate the support given through this initiative.

The establishment of an administrative body dedicated to diaspora engagement is significant and warrants consideration by other Pacific governments. It will enable greater reaches into the untapped potential of diaspora communities and existing organised means of community collaboration such as church groups, schools and early learning centres, community halls, and business networks. Equally important is that such an institutional development provides a clear focal point for engagement, not only across national governments but also between them, facilitating inter-governmental cooperation on how best to support transnational families.

## Sectoral Implications

Pacific families living beyond national borders in destination countries such as Aotearoa New Zealand will continue to play a role in shaping decisions by kin in home islands to move, and host those kin who do, regardless of the financial impact on them. For the large part, movement across borders will be at the family

[456] See, for example, Vaioleti, L., et al (2023b,4) who note in relation to the survey data generated "New Zealand is the clear destination of choice for those in Tonga and Samoa, for those planning overseas mobility in the coming five years, as well as in response to questions on hypothetical overseas mobility given the need and opportunity."

scale, and it will be in the form of circulation albeit of varying periodicity and duration of return. Supporting such pattern, at scale, requires long-term and coherent interventions across policy domains which transcend migration policy which increase the capacity to live 'the Pacific way'. (Im)mobility-sensitive policy consistent with the vision contained in The Ministry of Pacific Peoples' All-of -Government Pacific Wellbeing Strategy' must be part of the overall policy response to climate change in the region.

— *Immigration:* the key implication for migration policy emerging from the research is recognition of the fundamentally circular nature of Pacific migration now and in the future, and how this is enabled and supported in migration policy settings. In the Diverse Pacific section, we reference earlier work (Burson et al 2013; Burson et al 2021) which establishes how changes in migration policy settings may influence the scale and pattern of migration both to Aotearoa New Zealand and between PICTs. We also noted in that section that, while migration policy settings are critical to the formation of transnationally distributed families, changes in migration policy will have limited impact on responses to climate change at the national level in the western Pacific cluster given the sizes of the populations in these countries and their ongoing high rates of natural increase. (Im)mobility-sensitive policy development as regards the western Pacific cluster will, by necessity, have to continue to reflect household- level consideration of destinations within these countries, at least through to 2050.[457] By way of contrast in relation to the long term-policy horizon, we have noted above in the 'Population trajectories matter' discussion, how in relation to small populations such as those in Tuvalu and Kiribati, changes in existing migration policy settings implemented now may give rise to associated population losses each year which compensate for any momentum growth in the population over the long term and thus reduce the localised experience population pressure there.

As for the implications for specific policy sectors beyond immigration, we start with housing. Not only is a home this most tangible expression of 'place', how (im)mobility intersects with housing shapes impact in significant ways.

— *Housing:* Fale-Mo-Aiga – the Ministry of Pacific Peoples Pacific Housing Strategy 2030 – notes the significant housing deficit faced by Pacific families living in Aotearoa New Zealand: 24 percent of families experiencing severe household deprivation identify as Pacific families; 39 percent live in crowded accommodation, while 46 percent live in damp housing.[458] Yet, to a family, these will be part of an intergenerational and transnationally distributed family group, even if to differing extents. Many will have already hosted kin. The increasing Pacific population in Aotearoa New Zealand will be the first responders in relation to future migration here in the context of disasters and climate change. Fale-Mo-Aiga contains four priority areas action including to "Develop and grow the Pacific housing sector" and "Influence and strengthen the housing system to improve housing outcomes for Pacific peoples". It is imperative that actions to deliver on this take account of future climate-change related mobility, and the pressure this may place on the stock of Pacific housing are factored into policy development in associated policy.

(Im)mobility-sensitive policy means more than building more social housing and increasing tenure rates among Pacific families. Important though these things are, it is also about building appropriate housing. In particular, the research supports housing policy which reflects the muti-generational and transnational structure of Pacific families. Two broad directions of policy travel arise. First, the recently announced initiative to make it easier to build additional dwellings – 'granny flats' and the like – may be out-of-reach of many Pacific families given associated building costs and current cost-of-living pressures.

[457] For further discussion of mobility options in response to climate change, see Bedford, R. et al. (2023b) and Vaioleti, L. et al. (2024).
[458] Ministry of Pacific Peoples Pacific Housing Strategy 2030 https://www.mpp.govt.nz/assets/Resources/Housing/Fale-mo-Aiga_Strategy-Placemat_DIGITAL-7_0.pdf

Yet, the idea at the core of the policy – rethinking the use of existing structures on residential land – is an important one in terms of Pacific (im)mobility in the context of climate change. Central the history of Pacific migration to Aotearoa New Zealand has been the creative use of garages to house extended family groups (McPherson 2014; Salesa 2017, 66). Reimagining the use of existing garage structures on land owned or rented by Pacific families, including necessary financial support to ensure such dwellings comply with healthy homes and other health and safety regulations, will be important to consider.

Second, it also means working with communities in meaningful partnership to design appropriate housing. There is existing good practice on which to build policy in this regard. Howden-Chapman, P., et al (2024, 292) highlight how the Kāinga Ora/Housing and Health Research Programme, an architect, and Tokelau elders and researchers co-designed a multi-bedroom house for extended Pasifika families, which was built by Housing NZ in Porirua East, Wellington. Particular attention was paid to the multigenerational needs of the family and the need for good ventilation and heating in order to improve health and wellbeing outcomes.

Finally, as we have already noted in relation to the dynamic nature of place, a transnational housing policy framing is warranted. Given the circulation of family members between 'place' in Aotearoa New Zealand and in home islands, investing in better housing in in Aotearoa New Zealand will need to be complemented by investing in better, more climate resilient housing in PICTs.

— *Employment:* the research in relation to Tonga and Samoa has highlighted issues of economic inequality, such as the significantly lower median income for Tongans and Samoans in New Zealand compared to the national median income and higher rates of unemployment. As the All-of-Government Pacific Wellbeing Strategy recognises, such inequality affects other Pacific communities in Aotearoa New Zealand, and sits alongside lower educational attainment to constrain the capacity of the Aotearoa New Zealand situated members of transnational families to continue to provide for the resilience of families in the Pacific, as well as supporting those who arrive. The foundational strength, wellbeing, and capacities of existing populations in Aotearoa New Zealand to receive and support the successful integration of family in the future is an important component of successful transnationalism.

— *Health*: policy development must also recognise the 'dual exposure' of Pacific families in Aotearoa New Zealand, which have the additional pressures of being physically exposed to climate change and disasters here while simultaneously being emotionally and spiritually exposed to climate change and disaster impacts in the home PICT though the connection with family there. This not only has financial implications but also has health and wellbeing implications that need to be part of a coherent, whole-of-government approach for supporting the Aotearoa New Zealand-situated members of transnationally distributed families. [459]

Travel to Aotearoa New Zealand to access health services and treatment is an existing feature of pattern and will remain so. Yet, the research tells us that such movement can place strain of family members here. Recognising this, the Atafu Matauala community in Porirua have a long-term plan which includes initiatives to assist patients referred from Tokelau.[460] Such initiatives will be important should movement to Aotearoa New Zealand due to climate change ramp-up. How to best support the development and implementation of such community plans will be an important policy consideration.

— *Education:* the challenges faced by many Pacific families struggling to meet day-to-day needs, means financing costs associated with tertiary-level studies may make higher education for their children unaffordable. Yet, it is the Pacific youth in Aotearoa New Zealand today, who will shoulder obligations to

[459] Ng Shiu, R., (2024e). 11-12.
[460] Tulano, T., et al (2024). 14.

host and support family in home islands and improving access to higher education, and the employment and income gains this may bring, will be important for increasing their capacity to fulfil these obligations.

Moreover, developing (im)mobility-sensitive education policy will be an important intervention in terms of regional population trajectories. Improving access to higher education in Aotearoa New Zealand and elsewhere, for example though enhanced availability of scholarships, will be important given the population trajectory of the western Pacific cluster, and Papua New Guinea in particular.

— *Social development*: (im)mobility-sensitive social development policy means recognising circulation between multiple 'places' where transnationally distributed families reside in which persons in various age cohorts will likely move in and out of New Zealand for various lengths of time as members of transnationally distributed families. It will be important to consider how current portability arrangements reflect this reality. Presently while New Zealand has Special Portability Arrangements with many PICTs, these cover only superannuation and veterans' pensions and only where the recipient intends to reside in the specified PICT for more than 52 weeks.[461]

It also means recognising the role families in Aotearoa New Zealand play *as families*, not just as individuals. For Pacific peoples, the family is the base economic and social unit. It is in this collective capacity that Pacific families function as the primary support mechanism for the displaced, for migrants, and they will be so in the context of any future relocation of communities. Yet, this function can impose on families – as families – significant burdens and costs, both tangible/financial and intangible/emotional.

Places where Pacific families gathered as a community to preserve language and culture also function as spaces enjoyed by host communities. As such, they enhance social cohesion as well as becoming focal points for service delivery, particularly in times of crisis. Community-level funding pathways to support the building of such spaces and to support appropriate governance structures will be important to consider.

## Rethinking Funding

Pacific island governments increasingly access disaster risk and climate change adaptation funds through both bilateral and, since the operationalisation of the Green Climate Fund in 2015, multilateral funding. At the bi-lateral level, increasing geo-political competition in the Pacific is resulting in larger amounts of government-to-government funding, and some of it tied to addressing the impacts of climate change in the coming years. Any increase in financial support is to be welcomed, but at a general level, needs coordination between donors.

From an (im)mobility perspective, four important policy implications emerge from the research in relation to financing.

First, it is well understood that projects such as building sea walls to protect critical infrastructure on the main or capital island are important, but not sufficient. What the research makes clear is just how much everyday action is the cornerstone of resilience for Pacific families and communities. As the Sendai Framework Mid-Term Review indicates, improving ease of access to community funding will be critical towards meeting the goal of reducing the numbers of persons affected by disasters. **Investing more in localised anticipatory measures is therefore fundamental to prevent or reduce the scale of displacement**

[461] Work and Income New Zealand *Special portability arrangement with Pacific Countries* https://www.workandincome.govt.nz/pensions/travelling-or-moving/social-security-agreements/pacific-countries.html

**and to minimise loss and damage**. Equally, minimising loss and damage after a disaster not only maintains resilience but also reduces risk of future displacement.

There are already encouraging examples of innovative financing mechanisms being piloted or rolled out. Examples include weather-indexed micro-insurance schemes being piloted in Fiji, Tonga and Vanuatu under which payment is triggered as certain levels of rainfall or wind-speed are recorded [462] and forecast based-financing utilised by the Tuvalu Red Cross in 2021 to trigger early action on drought (IFRC 2021). Such innovative financing needs to be scaled up.

Second, at the household level, **remittances are often the most direct form of climate change adaptation funding and need to be recognised as such**. Whether financial or in-kind, assistance is tied to relationships to people and place, and draw on core Pacific values. Finding ways to better support transitionally distributed Pacific families to support kin in the home island (or to join them abroad) will be an important influence on the future scale, pattern and impact of climate change-related (im)mobility. Incentivising remittances to be used in such a manner will be an important policy consideration.

This, however, comes with an important policy caveat. **While the *existence* of remittances is a modern from expression of core Pacific values, the *extent* to which remittances are being used to help families in home villages or other places to adapt to climate change or reduce disaster risk is a function of the deficit in support from other funding sources. It is inequitable that transnationally distributed families bear the burden of a problem not of their making. While it is necessary for policy settings to incentivise such use of remittance flows, this cannot be at the expense of improving access to other funding sources.**

In this regard, there is a welcome increase in the number of PICTs establishing national-level adaptation funding mechanisms such as the Palau Protected Areas Network Fund, the Tuvalu Climate and Disaster Survival Fund, and more recently the Tonga Climate Change Fund and Fiji Climate Change Fund (UNDRR 2023a). To the extent that this is not happening already, **it will be critical to ensure that project and programmes dealing with (im)mobility are included within the scope of such national funding mechanisms**. Telescoping out to the regional level, supporting the development and sustainable financing of such adaption funds and consideration given to establishing a regional support mechanism to reduce administrative burdens could be usefully included in the Regional Framework on Climate Mobility implementation plan being developed currently, if not already done.

Fourth, at the regional level, the research emphasises the importance of recognising intra-Pacific mobility between PICTs. While there are indications of clear preferences for some to move to metropolitan countries of the Pacific rim, even if not necessarily permanently, others will not be so inclined, should they decide to move at all. This raises **the issue of establishing financial support for other PICTs to receive populations from other PICTs who may relocate there in the future.** Further, social security penetration in Pacific is uneven. While there have been important advances, many gaps remain (Knox-Vydmanov et al. 2023). Enhancing social security penetration will also influence future scale and pattern by supporting families who choose or are compelled to stay in place and/or to provide support as host communities.

## Addressing data issues

There are several areas where data gaps exist. Hazards are unevenly mapped in terms of type and geography, and displacement is poorly understood. Without a clear understanding of the scale of existing displacement,

[462] MFAT 'After the storm - innovative disaster response'. At https://www.mfat.govt.nz/en/environment/climate-change/supporting-our-region/the-climate-change-programme/climate-change-programme-case-studies/after-the-storm-innovative-disaster-response In relation to tonga specifcally, see Vaioleti, L. et al. (2024). 38.

it becomes challenging to develop effective policies or finance actions to reduce its likelihood or minimise impacts when it occurs.

There are also important gaps in analysis of data relating to contemporary internal migration.[463] Most censuses of Pacific populations contain data on internal migration but there has been little quantitative analysis of this process using census data in recent years. This is a research gap that merits attention given that in most Pacific countries, and especially those in the western Pacific, where most of the population growth is occurring, internal relocation is likely to be a much more significant migration response to hazards linked with climate change than relocation to another country within or outside the region.

There is also an important data gap relating to the transnational dimension of Pacific populations. There has been a trend in censuses throughout the region to restrict published data to a small number of specific countries-of-birth and ethnic groups, even though much more detailed information on these variables is collected in the censuses. This poses major problems for the analysis of transnational populations because birthplace is the most common reference variable used when examining migrant flows between countries, and the numbers and characteristics of migrant groups in particular countries.

This is not a difficult problem to resolve – it simply requires a more fine-grained presentation of data on birthplace and ethnicity in the published census tables, recognising that the requirement to ensure that no specific individual in the population can be identified in the published data is met.

Finally, it is important that longitudinal data is captured, both in relation to communities who stay and communities who have moved. Impacts and consequences – both positive and negative – may take time to manifest. It is only though committing to gathering robust quantitative and qualitative data over longer time horizons that trends and unforeseen issues can be captured and factored into future policy development.

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