TIRIA

Previously Malatest International

A report prepared for Auckland Council

Pacific Aucklanders and Climate Change

April 2025

Auckland Council

Te Kaunihera o Tāmaki Makaurau

Acknowledgements

Thank you to everyone who shared their knowledge and experiences with us. We spoke with a wide range of people, including members of the Pacific community, those working in the climate change space and staff and panel members at Auckland Council. It was a privilege to listen to so many inspiring voices. We shared talanoa, laughter and sometimes tears. Thank you for your generosity in sharing with us.

Prepared for Auckland Council / Te Kaunihera o Tāmaki Makaurau by TIRIA (previously Malatest International).

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Document referencing

Approved for Auckland Council publication by Alison Reid, Team Leader Social and Economic Research and Evaluation team, Auckland Council.

Suggested citation: TIRIA (2025). Pacific Aucklanders and Climate Change. Prepared by TIRIA for Auckland Council.

April 2025

ISBN 978-1-991377-46-3 (PDF)

Executive summary

Auckland's climate is changing, and while everyone is affected, some communities are more exposed to its effects than others. Pacific peoples in Aotearoa, New Zealand (New Zealand) have been identified in current national and local government climate policies as facing greater exposure to climate risks due to socioeconomic factors, including income levels, housing conditions, and employment patterns. The Auckland Council's Te Tāruke-ā-Tāwhiri: Climate Action Plan (2019), for example, identifies Pacific peoples as a priority group needing support for climate change initiatives. However, there are gaps in understanding how Pacific Aucklanders perceive climate change and its impacts. This qualitative study investigates Pacific Aucklanders' knowledge, awareness and understanding of climate change impacts to inform more effective and culturally relevant climate strategies.

Research approach and data sources

This study utilised a qualitative research approach grounded in Pacific research methodologies, ensuring cultural relevance and safety for participants. Data collection, conducted between September and December 2024, involved a rapid literature review, interviews with seven stakeholders (e.g. Pacific climate change experts and mana whenua), six fono/focus groups and seven paired interviews with 41 Pacific Aucklanders. The research was guided by Pacific frameworks which emphasise collective knowledge-sharing, as discussed below.

Research findings

The results highlight the complex climate change challenges faced by Pacific Aucklanders, shared by the intersecting factors of socioeconomic status, cultural frameworks and Pacific transnational connections. The key findings include:

1. **Diverse range of knowledge and awareness about climate change**. While community participants acknowledged climate change as an issue, their understanding of its causes and impacts varied widely. This finding is consistent with prior research, which suggests that awareness may be limited due to the gradual nature of climate impacts, cultural interpretations of environmental changes, and socioeconomic barriers that influence motivation to act. The findings highlight gaps in knowledge and misinformation that influence Pacific communities' engagement in climate action.
2. **Pacific Aucklanders access climate information from multiple sources**. The most accessed sources include social media platforms such as TikTok and Instagram, traditional media sources (particularly TV news) as well as friends and family. Schools, educational institutions, research papers and official reports were also identified as sources of information but were accessed by a smaller number of community participants. While social media platforms were the most accessible, there were mixed views about the trustworthiness of information shared via social media. In comparison, traditional media sources were seen as more reliable and trustworthy.
3. **Climate change is seen as an issue for the Pacific region and less so for Auckland**. Almost all participant perceptions, understandings, and awareness of climate change were framed in relation to the Pacific region and their home islands, with most participants finding it difficult

to identify climate change issues and impacts in Auckland. Pacific Aucklanders expressed strong concern for climate change in the Pacific region, particularly for family members facing displacement, while their immediate priorities centre on economic challenges and the cost of living.

4. **Pacific traditional knowledge and practices have limited relevance in an Auckland context**. Interviewed stakeholders highlighted the relevance of Pacific traditional climate change practices, knowledge, and responses to Pacific environments, while recognising that mātauranga Māori was more appropriate and significant in the context of Auckland's urban environment. Community participants discussed traditional practices, such as sustainable food sourcing and methods (seasonal fishing and sourcing only what is needed), climate-resilient housing (e.g., traditional Samoan fale), and coastal protection through planting, but struggled to identify which of them could be relevant to Auckland.
5. **Climate action enablers and barriers.** Enablers for climate action include community-led solutions informed by cultural contexts, incentivising climate-friendly behaviours and making climate solutions affordable to address financial constraints and intersectoral collaboration, including Pacific service providers and leaders. Barriers were identified as economic constraints, lack of reliable transport alternatives to private car use and climate information, which is complex and hard to understand.

Opportunities for Auckland Council

1. **Increase climate awareness**. Develop Pacific-specific education strategies informed by cultural frameworks and using creative modes such as storytelling led by Pacific community leaders.
2. **Reframe climate-friendly behaviours as both affordable and sustainable**. Emphasise the co-benefits of climate action.
3. **Support Pacific-led climate action** by fostering partnerships between local government, businesses, service providers and community leaders to create inclusive, community-driven solutions. This will help to increase Pacific engagement in both climate action design and implementation.

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1. Introduction

Evidence identifies climate change as a significant global challenge with disproportionate impacts on small island nations and populations experiencing socioeconomic disadvantages. Aotearoa New Zealand (New Zealand) and Tāmaki Makaurau/Auckland are no different. Auckland's climate is changing, and while everyone is affected, some communities are more exposed to its effects than others (ARUP, 2019). Pacific peoples in New Zealand often face greater exposure to climate risks due to factors such as geography, socioeconomic conditions and housing pressures (Auckland Council, 2019). Many Pacific families live in low-lying flood-prone suburbs, and as extreme weather events become more frequent, the potential for housing instability, displacement and disruption of community ties increases (Ministry for the Environment [MfE], 2022a). Limited household incomes, along with restricted access to insurance and emergency housing support, can hinder recovery from climate change impacts (Environmental Health Intelligence New Zealand [EHINZ], 2024; MfE,2022b). Pacific peoples are also overrepresented in industries such as construction, manufacturing and agriculture, sectors particularly affected by rising temperatures and extreme weather (EHINZ, 2024]. Many Pacific families also live in multi-generational households, often in rental properties or older housing that are not built to withstand extreme weather events (Stats NZ, 2023). Overcrowding can worsen health risks during heatwaves, while a lack of green spaces in some urban areas compounds the effects of extreme heat (EHINZ, 2024; MfE, 2022a).

Pacific leaders and communities from the Pacific region have long been at the forefront of climate resilience and adaptability (Ng Shiu et al., 2024). Pacific leaders have advocated for climate equity to ensure high carbon emitters contribute to the loss and damage caused by greenhouse gas emissions on island nations and communities. At the same time, local communities continue to demonstrate resilience through traditional knowledge practices through sustainable resource management, forecasting and warnings, and community-based adaptation (SPREP 2016; MfE, 2022a). Pacific communities have demonstrated the resilience of traditional adaptation strategies by addressing coastal erosion, returning to traditional architectural designs more suited to tropical climates and combining Western and traditional approaches to climate impacts. While Auckland's climate changes and impacts differ from its tropical neighbours, which is largely determined by temperate climates and urban living and conditions, Pacific worldviews, values and practices are still potentially valuable for addressing the climate-related realities of Pacific peoples in Auckland.

In recent years, Auckland has witnessed an increase in extreme weather events, such as the 2023 Anniversary weekend floods and Cyclone Gabrielle, which caused widespread damage and highlighted the need for more robust climate change strategies. While Auckland Council's *Te Tāruke-ā-Tāwhiri: Auckland's Climate Action Plan* (Climate Action Plan) (2019) acknowledges some of these challenges, there remain gaps in understanding how Pacific Aucklanders perceive climate change and its impacts. Including Pacific perspectives in climate planning can foster more effective, inclusive and culturally responsive strategies.

To address this gap, Auckland Council's Social and Economic Research and Evaluation (SERE) team and Chief Sustainability Office (CSO) commissioned TIRIA (previously Malatest International) in July 2024 to explore Pacific Aucklanders' attitudes and understanding of climate change and its impacts. Auckland Council established a Project Advisory Group comprising Pacific and non-Pacific staff

members from across the Auckland Council group. Their role was to support the research team in developing research tools, engaging with Pacific communities, and interpreting and disseminating findings.

1.1. Profile of Pacific peoples in Auckland and New Zealand[1]

Pacific peoples in New Zealand make up a diverse and growing population with distinct cultural, linguistic and ethnic identities. Most are born in this country and a growing proportion of Pacific young people identify with multiple ethnicities. As one of the fastest-growing demographic groups in New Zealand, Pacific peoples play an important role in New Zealand's social, cultural and economic landscape. Pacific Aucklanders contribute to the vibrancy of Auckland from annual Pacific festivals such as the Pasifika Festival and the ASB Secondary School's Māori and Pacific Festival through to Auckland neighbourhoods and suburbs that feature Pacific churches, eateries and art.

A defining feature in Auckland: Two-thirds (62%) of Pacific peoples in New Zealand reside in Auckland, where one in six residents identify with a Pacific ethnicity. Pacific peoples represent the third largest ethnic group in this region (17%), following European (50%) and Asian (31%) populations and outnumbering Māori (12%) and MELAA (Middle Eastern, Latin American and African) (3%) populations.

Auckland's Pacific population was 275,079 at the 2023 Census, making up 16.6% of the region's population. This marks a 12.8% increase (31,113 people) since 2018, outpacing Auckland's overall population growth of 5.4%.

Nearly half of Pacific Aucklanders identify as Samoan (49%), followed by Tongan (26%) and Cook Islands Māori (19%). Other Pacific communities include Niuean (9%), Fijian (5%), and Tuvaluan (2%) (Auckland Council, 2024).

Most Pacific peoples live in southern Auckland, particularly in Māngere-Ōtāhuhu (60.4%), Ōtara-Papatoetoe (48.7%), Manurewa (39.9%) and Papakura (20.5%) local board areas (Auckland Council, 2024).

Auckland's Pacific community is relatively young, with nearly a third (29.5%) under the age of 14, compared to 17.2% of the non-Pacific population. A smaller proportion are 65 or older (6.3%) compared to 14.6% of the non-Pacific population. However, the Auckland Pacific population is gradually ageing, as reflected in a slight decline in the proportion of children under 14 (29.5%) compared to 2018 (32.3%).

Throughout this report, Pacific peoples refers to Samoans, Tongans, Fijians, Cook Island Māori, Niueans, Tokelauans, Tuvaluans and I-Kiribati residing in New Zealand who either migrated from their Pacific Island nations or who identify through ancestry. While these groups share common values, such as a focus on family, respect and collective wellbeing, each has its own distinct language(s), culture and political structures (Macpherson, Spoonley & Anae, 2001). Furthermore, within each

[1] Unless otherwise specified, all statistics referenced in this section are taken from the 2023 New Zealand Census of Population and Dwellings.

group, there is diversity in demographics, migratory experiences and perspectives. Recognising this diversity is essential when engaging with Pacific New Zealanders.

Socioeconomic factors

Socio-economic factors, including income, employment, education and housing, are key determinants of health and wellbeing for Pacific peoples in New Zealand. These factors also influence their ability to prepare for, respond to and recover from climate change impacts. Existing inequalities in these areas mean Pacific peoples are more likely to experience financial strain, housing insecurity and health risks – challenges that climate change is expected to intensify (Arup, 2019; MfE,2022b; EHINZ, 2024). The statistics provided here are for Pacific people across New Zealand but provide useful proxies for Pacific Aucklanders. Some examples of socio-economic disparities that shape how people experience climate change include:

- **Income inequality:** Pacific peoples experience the largest pay gap even when adjusting for occupation, industry and education (New Zealand Human Rights Commission, 2022). On average, Pacific males earn $0.75 and Pacific females the same, for every $1.00 earned by a European male. In comparison, Māori males earn $0.86, Māori females $0.81, and European females $0.89 (New Zealand Human Rights Commission, 2022). Lower wages limit financial flexibility, making it harder to absorb unexpected costs from climate-related events, such as increasing insurance costs (EHINZ, 2024).
- **Financial insecurity:** One in five Pacific peoples (20.5%) report not having enough money to meet everyday needs, double the rate of the total population (10.6%) (Stats NZ, 2023). Limited financial resources can make it more difficult to invest in climate-resilience measures, such as emergency preparedness (MfE, 2022a).
- **Employment:** Pacific unemployment in Auckland rose from 6.4% to 8.2% in the year ending June 2024, reflecting a broader trend of rising unemployment across all ethnic groups (Wilson, 2024). Māori unemployment increased from 7.6% to 9.7%, while European and Asian rates also saw smaller rises, from 2.4% to 3.6% and 3.1% to 3.5%, respectively (Wilson, 2024).
- **Declining home ownership**: Since the 1980s, home ownership rates have declined for Pacific people. Around half lived in owner-occupied homes in the 1980s (Stats NZ, 2023). By 2018, this fell to just over a third (Stats NZ, 2023). As renting becomes more common, many Pacific households have less control over housing conditions, making it harder to implement measures that reduce climate risks, such as improving insulation or flood protection (EHINZ, 2024).
- **Educational attainment**: The 2018 Census showed that 7.7% of Pacific peoples held a bachelor's degree or level 7 qualification, compared to 14.6% of the total population. Higher education levels are linked to better access to scientific information and increasing understanding of climate change and its long-term impacts (EHINZ, 2024).
- **Housing conditions and links to health outcomes**: More than half of Pacific people live in homes with at least one housing issue, such as inadequate heating, mould and dampness, compared to 32% of the general population (Stats NZ, 2023). These conditions increase exposure to climate-related risks, such as respiratory illnesses, which may worsen as extreme weather events become more frequent (MfE, 2022a).

While these statistics highlight the real socioeconomic issues that Pacific peoples in Auckland and across New Zealand face daily, there are many aspects of Pacific Aucklanders and their communities that are hard to quantify but just as important to highlight. This includes a sense of community and belonging. One example of this was the Pacific community response to the COVID-19 pandemic, which highlighted the challenges of living in overcrowded homes but also demonstrated the agility and effectiveness of Pacific leaders and communities in dealing with crises. The New Zealand Royal Commission of Inquiry (2024) into the COVID-19 response showed that once Pacific leaders and communities were included in the COVID-19 response, health outcomes, including vaccine uptake, improved significantly, demonstrating the strength of community.

In summary, Pacific communities represent a diverse, significant and growing population in Auckland. Some Pacific communities have deep historical ties to Auckland and New Zealand, whilst other communities represent growing recent migration. This context has implications and nuances for understanding Pacific Aucklanders' connection to their Pacific homelands and how climate change is experienced and interpreted. It is also important to provide a nuanced understanding of how the demographic characteristics presented here intersect with climate change and socioeconomic issues like income levels, home ownership and health status to inform policies and strategies that address the unique needs while leveraging the strengths of Pacific Aucklanders.

1.2. Research aims

Despite the identification of Pacific peoples as a priority group in various climate strategies and policies in Auckland, New Zealand, there is very little research and literature on Pacific people in New Zealand and climate change. This research contributes towards addressing this gap by investigating the impacts of climate change on Pacific Aucklanders. The research aimed to investigate:

1. Pacific Aucklanders' **attitudes and understandings** of climate-related environmental changes in Auckland over the last 10-20 years
2. Pacific Aucklanders' views about the **causes** of local environmental changes
3. What **factors contribute** to Pacific Aucklanders' **knowledge, awareness, and attitudes** regarding climate change
4. How Pacific Aucklanders perceive the **potential impacts** of climate change on health, social, economic, and environmental aspects, both personally and within their communities
5. How applicable **traditional knowledge and Pacific practices** are in addressing environmental changes in their context
6. What **enablers and barriers** exist in undertaking climate-related actions, and how Pacific Aucklanders perceive their own agency or lack thereof in responding to climate change.

Understanding these areas is important in developing inclusive, community-led strategies that reflect local needs and foster greater buy-in from Pacific communities. The results will inform policies and strategies that can effectively engage with Pacific communities' specific needs, values and strengths.

2. Our Pacific research approach

The qualitative research approach taken for this study was grounded in Pacific research methodologies that center Pacific worldviews and knowledge systems. By doing so, it ensures the research process is culturally appropriate and relevant. Since the 1980s, there has been a growth in Pacific research methods and approaches specific to each Pacific country. At present, there is no pan-Pacific model to draw upon, although there are approaches such as Talanoa[2] (Vaioleti, 2006), which is well known and commonly used in Pacific research. Given the diversity of Pacific voices, the research team in discussion with the Project Advisory Group and Auckland Council's Pacific Peoples Advisory Panel[3] decided to focus on the *Fa'afaletui* (Tamasese, Peteru, & Waldegrave, 1997) model whilst also drawing on the complementary Pacific frameworks of Kakala (Helu-Thaman, 1992) and Tivaevae (Maua-Hodges, 2000).

Fa'afaletui, as described by Tamasese et al., (1997), is a traditional Samoan method for integrating diverse perspectives from different 'houses' (fale) of knowledge. Similarly, this research was designed to bring together different sources of knowledge, ensuring that the voices of Pacific Aucklanders and Pacific stakeholders, which included climate change advocates, researchers, and community leaders, alongside mana whenua (local Māori iwi and hapū), were meaningfully integrated. The research drew on different information sources, including a rapid literature review, focus groups and interviews. *Kakala*, a Tongan framework, follows a structured process of gathering, analysing and sharing knowledge, which informed the approach to data collection and analysis. *Tivaevae*, from the Cook Islands, reflects the importance of collective discussion and layered perspectives, aligning with the collaborative nature of the focus groups, interviews and findings workshop. The use of these frameworks ensured that Pacific worldviews shaped findings.

The Aotearoa Research Ethics Committee granted ethics approval in September 2024.

2.1. Data collection

Data sources used for this study included a rapid literature review, in-depth interviews and community talanoa/focus groups.

Rapid literature review

A review of academic and grey literature from the past 20 years was conducted to identify and summarise existing knowledge on Pacific climate change in Auckland, aligning with the research aims. Initially, the review aimed to look at the most recent publications (over a 10-year period), but a

[2] From a research position, talanoa is fundamentally about building culturally valued and respected relationships between research participants and the researcher mediated through talk (Halapua, 2000).

[3] The Pacific Peoples Advisory Panel (PPAP) offers advice to the Mayor of Auckland based on their experiences living as Pacific peoples, to help improve outcomes for Pacific Aucklanders. More information is available at: https://www.aucklandcouncil.govt.nz/about-auckland-council/how-auckland-council-works/advisory-panels/Pages/pacific-peoples-advisory-panel.aspx

small number of search results led to increasing the timeframe to a 20-year period. A description of search terms and the review process can be found in Appendix 1.

2.2. Interviews and fono/focus groups

Interviews and/or fono/focus groups were carried out with three groups: stakeholders (including Pacific academics), mana whenua representatives and Pacific community groups. They were conducted face-to-face or online between September and December 2024. With consent, interviews were recorded and transcribed verbatim. All information was securely held exclusively by TIRIA. Any quotations used in reporting have been anonymised.

Stakeholder interviews (n=7)

Online and in-person interviews were conducted with seven stakeholders. The seven interviewees included climate change researchers and policy makers engaged in the Pacific and New Zealand, Pacific social service providers and mana whenua representatives. Participants were recruited from the researchers' extensive climate change networks, and the Project Advisory Group and Pacific Peoples Advisory Panels' community networks to ensure the research was inclusive of a range of academic, evidence-based and Pacific community leadership perspectives

The stakeholder interviews with Pacific academics and researchers were helpful in providing further guidance and advice on optimal engagement approaches with Pacific community talanoa/focus groups.

Mana whenua interviews (n=2)

Informal interviews were conducted with Auckland-based mana whenua representatives who are active in Pacific-Māori climate research. While this research did not specifically focus on experiences of mana whenua, it acknowledges the unique position of Māori as tangata whenua (indigenous people of New Zealand). This study recognises Pacific peoples as tauiwi (non-Māori/immigrants), though a growing number of Pacific peoples are identifying as Māori through intermarriage. Additionally, the research acknowledges mana whenua possess extensive knowledge of Auckland's natural environment.

Community fono/focus groups and paired interviews (n=41)

Six focus groups and seven paired interviews were conducted with 41 Pacific Aucklanders aged 18 and older, capturing insights from individuals with varied experiences and knowledge and offering perspectives beyond those of stakeholders.

Focus groups were chosen for their interactive nature, which enables sharing and building on each other's ideas that interviews do not. They can also encourage people to explain their thinking, leading to a deeper understanding of the topic. Where a small number of participants (less than four people) attended a planned focus group, paired interviews were conducted. Non-attendees were followed up and invited to a future focus group or an interview.

A semi-structured question guide was developed (see Appendix 2) based on the research aims and agreed upon with the Auckland Council research team before data collection began. All focus groups were approximately two hours long, conducted in English and facilitated by experienced Pacific

researchers. Online sessions were audio and video recorded, while in-person sessions were audio recorded. As a token of appreciation, all participants received meaalofa in the form of a gift voucher. Light refreshments were provided for in-person sessions.

Participants were recruited through existing networks, including the researchers' professional and personal connections and the Auckland Council. Researchers attended Council-supported Pacific events to recruit participants and snowball sampling was utilised to reach a broader group. The inclusion criteria for participation were that individuals must self-identify as Pacific, live in Auckland and be 18 years old or older. Participant demographics, including ethnicity, age and migration history are detailed below, showing their diversity.

Tuvaluan and Fijian ethnic-specific focus groups were conducted in person; data collection later moved online and became pan-Pacific due to participant availability and convenience. Recruitment posters were also reframed around 'Building a better Auckland for our children – how can we protect our children from climate change impacts' based on preliminary findings from the focus groups on the ambivalence of participants towards climate change in general (see Appendix 4). Early findings showed no ethnic-specific themes, which supported the decision to adopt pan-Pacific focus groups.

In consultation with the Project Advisory Group and based on recommendations from stakeholder interviews, it was decided to introduce a learning element, after community participants explored their attitudes and understandings of climate change and its causes, but before exploring solutions. This included clarifying that climate change refers to long-term shifts in weather patterns over a period of 30 years or more rather than short-term weather variations and refers to the warming of our planet due to human activities (see Appendix for the education slide used). This helped ensure a common understanding and allowed for more informed contributions during the discussion.

Participant profile

Ethnicity: Most participants self-identified as Samoan (20), Fijian (11), and Tongan (6) followed by Niuean (4), Cook Islands Māori (3), Tuvaluan (3), I-Kiribati (2) and Tokelauan (1)

Age: Most participants were aged 45-54 years (12) followed by 25-34 years (9), 35-44 years (8), 18-24 years (7), 55-64 years (3) and 65+ years (1)

Migration history: More participants had moved to New Zealand more than 5 years ago (22), compared to those who were born in New Zealand and one or both parents migrated (11), born in New Zealand and grandparents migrated (3), or recently moved to New Zealand within the last 5 years (1).

2.3. Thematic analysis

The Kakala model provided a useful structure to analyse and interpret the qualitative data informed by Pacific values. Pacific researchers conducted the analysis, ensuring insights were grounded in Pacific methodologies and findings were framed, interpreted and reported in a way that respected Pacific worldviews and the context of participants. The data was analysed using a general inductive approach which involved identifying themes and sub-themes aligned with the research questions as well as common themes across groups. The thematic analysis helped identify shared views, experiences and perceptions.

Common themes are referenced as something that 'all' (every participant interviewed) participants mentioned, 'most' (more than half of the participants interviewed) or 'some' (fewer than half of the participants). Specific and/or less common themes are referenced as 'one participant' or 'a small number of participants'. The incorporation of less common themes was included to provide a fuller picture of the data. For example, various perceptions of climate change and its impacts were captured, including those that, while not forming common themes, still provided valuable insights.

Although the key themes and findings are derived from three groups – stakeholders, community members and mana whenua – they have been presented collectively to minimise repetition, as there were no notable differences across these groups. When a perspective was unique to community members, stakeholders or mana whenua, this has been explicitly attributed to the relevant group rather than implying it is a general finding.

2.4. Strengths and limitations

The strengths of this research include:

- Pacific researchers led the thematic analysis, bringing Pacific methodologies and perspectives to ensure the findings were framed, interpreted, and reported in a way that considered the context, worldviews, and safety of participants.
- Data collection included diverse perspectives, with input from Pacific community members, representatives of tagata sa'ilimalo (Pacific disabled people, their families and carers), Pacific climate change advocates and experts, and mana whenua, ensuring the research captured a wide range of experiences and insights.

The limitations of the research include:

- Pacific peoples not interested in climate change may have been less likely to participate, potentially skewing the findings towards those who are already engaged in climate action. To mitigate this, snowball sampling was used, encouraging participants to involve others, including those not engaged in climate action.
- During the fieldwork stage a new recruitment promotion was created around the theme 'Building a better Auckland for our children – how can we protect our children from climate change impacts' to improve uptake in the research (see Appendix for recruitment documents), shifting the emphasis from climate to family which the research team believed would resonate with Pacific peoples more.
- The findings in this report are based on a small and non-representative number of interviews and focus groups. While key themes were identified, these findings should be considered indicative only and caution should be exercised when generalising from them.

3. Rapid literature review

3.1. Climate change and Pacific peoples in the Pacific Islands

To understand the views of Pacific peoples in New Zealand on climate change, it is important to consider the perspectives of those in the Pacific region, as their views can influence the attitudes and responses of Pacific peoples living in New Zealand (Newport et al., 2024b). In this section, we first discuss climate change impacts with reference to slow onset events and natural disasters and adverse weather effects and how these are different based on geography, location and settlement types. Second, we review literature on Pacific communities' understanding, awareness, and perceptions of climate change. Finally, we highlight Pacific responses to climate change with a focus on Pacific leaders' advocacy in global diplomacy.

Climate change impacts – slow onset events and natural disasters

Pacific nations contribute the least to global greenhouse gas emissions (less than 0.03%) but are the most impacted by climate change (Tukuitonga et al., 2024). These impacts include slow-onset events as well as natural disasters and adverse weather effects. Slow-onset events include the erosion of coastlines, rising and warming sea levels, ocean acidification and the variability of seasons and weather (UNFCCC, 1992). These impacts occur over a long period of time, leading to changes in the way in which Pacific people access food, relying more on imported food as sustainable agricultural and marine practices become more challenging. Natural hazards and adverse weather events like the increased frequency and intensity of cyclones, earthquakes and tsunamis have a devastating effect on the health and livelihoods of Pacific communities. Constant rebuilding of public infrastructure such as roads, hospitals and water, sanitation and hygiene systems strain already scarce economic resources of Pacific communities. Accessing rural and remote island, inland and upland communities after a natural disaster to ensure urgent disaster response aid and relief is delivered also becomes problematic, particularly as boats, cars and roads are damaged.

There are diverse environmental and climate changes in the Pacific, which are not limited to coastal and heat impacts. While small atoll islands like Funafuti in Tuvalu are susceptible to coastal erosion and king tides, Pacific communities in highlands such as Managalas in Papua New Guinea experience increased variability and unpredictability of weather (Ng Shiu et al., 2024).There needs to be wider recognition that climate change impacts are experienced differently based on geography, location and settlement types, which in turn implies that policy responses should also account for these differences at international, regional, national and local levels.

Vanuatu has been identified as one of the most vulnerable nations to natural hazards based on the average annual natural hazards occurrence between 1980-2020 (World Bank, 2021). These include droughts, floods, extreme temperatures, earthquakes, tsunamis and cyclones, which can occur in combination or isolation. Extreme temperatures and heat waves affect both land and marine temperatures. The Western Pacific Ocean has been identified in research as a global hotpot for climate change impacts on marine heat waves leading to longer and more intense marine heat waves (Frölicher et al., 2018). These climate events impact on access to safe drinking water, agriculture and marine resources, and growing poverty and social inequalities. For example, poorer farmers and

communities are least able to afford local water storage, are more likely to rely on subsistence farming and agriculture and least able to relocate temporarily and/or permanently (Newport et al., 2024b).

In Samoa, slow onset events such as rising temperatures, sea levels and changing patterns affect the country (Latai-Niusulu et al., 2020). Despite strong leadership and ongoing climate adaptation efforts by the Samoan government (both domestically and internationally), a gap persists between government action and public perception. The 2020-21 Pacific Attitudes Survey (Barbara et al., 2023) revealed that only 43% of Samoans regarded climate change as an urgent issue, while 39% believed it would not require any action. However, 60% of participants agreed that climate change had already impacted life in Samoa 'a lot', though a smaller proportion reported it had impacted their own life and income 'a lot' (41% and 38% respectively). The survey also revealed a strong sense of action among Samoans with a majority (67%) saying 'a lot' could be done to address climate change, while 7% said 'not much' and 15% said 'nothing at all'. These findings suggest a general belief in the ability to act despite varying levels of awareness and urgency. These study findings present the most recent empirical evidence from a nationwide survey on climate change in a Pacific country. These findings are similar to those from other research on Pacific communities across the region (Scott-Parker et al., 2017).

Pacific communities' awareness and perceptions of climate change

Research to date has highlighted the need to better understand the awareness and perceptions of climate change among Pacific people**.** This is critical given the diverse contexts within the Pacific region, including varying geographies, social structures and cultural values, all of which shape how climate change is perceived and acted upon (Beyerl et al., 2018; Lata & Nunn, 2012; Scott-Parker et al., 2017). Awareness of climate change can be limited due to its gradual nature and the long-term scale of its impacts. Even when effects are noticed, culturally influenced ideas about who has the power to act, how they can do so, and perceptions of the causes of climate change can influence the motivation to act (Barbara et al., 2023; Beyerl et al., 2018, 2019; Mortreux & Barnett, 2009).

Research in Tuvalu highlights the role of cultural and religious beliefs in shaping local responses to climate change despite the widespread scientific consensus on the need for climate migration as an adaptation strategy. Many Tuvaluans view climate change through a religious lens, which influences their urgency to act. For example, biblical teachings, such as God's promise to Noah to never bring severe flooding again, are used by some to explain why they do not perceive a need for climate action (Barbara et al., 2023; Campbell & Warrick, 2014; Mortreux & Barnett, 2009). However, a small group of Tuvaluans interpret scripture as supportive of scientific warnings about climate change, seeing them as a divine message to take action (Paton & Fairbairn-Dunlop, 2010). Similar perspectives are evident across other Pacific communities, where climate change is often seen as a manifestation of divine will, and as such, there is a belief that little can be done to mitigate it (Nakayama et al., 2019). For example, in Fiji, many Christians interpreted the destruction caused by Cyclone Winston in 2016 as divine retribution (Cox et al., 2018; Fair, 2018).

Religious beliefs may present challenges to climate adaptation, but they can also be leveraged to inform the design of culturally inclusive and respectful adaptation strategies (Fair, 2018). Research on climate change management has demonstrated that interventions that do not acknowledge the importance of spirituality, cultural connections to land, and traditional forms of decision-making can

unfortunately lead to maladaptive practices, that is, practices or interventions that may seem like a solution but create conditions or situations that worsen climate change impacts. Common areas where maladaptive practices are seen across the Pacific include the construction of seawalls using non-traditional materials which can lead to further coastal erosion as well as addressing access to clean and safe drinking water, where importing drinking water in plastic bottles now causes issues around waste management and recycling of plastics (Luetz & Nunn, 2020; Ng Shiu et al., 2024).

Pacific climate adaptations, leadership and advocacy

Climate change has a multiplier effect, exacerbating current challenges experienced by Pacific communities. Pacific communities are aware of vulnerabilities associated with climate change, but these are seen as challenges alongside socioeconomic, political and cultural challenges. These challenges are viewed as ongoing and demand continuous solutions (Ng Shiu et al., 2024). For example, innovations in climate-smart-agricultural practices, such as reshaping traditional methods to make use of drought-tolerant plants or techniques like planting vegetation to combat flooding and coast erosion, are vital in addressing current environmental challenges. Some of these practices also combine traditional knowledge with modern technology, such as the development of salt- or heat-tolerant crops to ensure food and water security (Mcleod et al., 2019). These examples demonstrate that traditional knowledge and practices continue to play an important role in climate adaptation strategies within Pacific communities, highlighting the potential applicability of these practices in responding to environmental changes.

International media often portrays Pacific nations as victims, despite their significant role in climate action and advocacy (Beyerl et al., 2018, 2019; Nunn et al., 2017). This portrayal overlooks the wealth of knowledge that has enabled Pacific nations to adapt to climate change for generations and ignores the adaptive solutions and innovations being developed within these communities in response to current and future climate challenges (Beyerl et al., 2018; Mcleod et al., 2019; Nunn et al., 2017). At the same time, Pacific leaders and advocates have also engaged with the media to highlight the lived realities and experiences of climate change impacts. This has helped to support a narrative that demonstrates the moral and ethical imperative for big country polluters to act and support the lives and livelihoods of Pacific communities on the 'frontline' of climate change.

Achieving sustainability and resilience requires national, regional, and global commitments across economic, ecological and health systems. Pacific governments nationally and regionally have coordinated policy efforts to advocate for the region and inspire collective action on climate change (Tukuitonga et al., 2024). The call and advocacy from Pacific leaders in recent times contributed to the establishment of a Fund for Responding to Loss and Damage (FRLD) at COP27 in 2022 to provide financial assistance to the nations most vulnerable and impacted by climate change. Loss and damage include both intangible and tangible phenomena. Tangible losses include loss of property and assets, while intangible phenomena or non-economic losses include loss of traditional cultural practices and knowledge, degraded health, and losses associated with human mobility, including loss of cultural identity and language. The fund, therefore, is available to support the most vulnerable and impacted communities to address slow onset events, fund effective comprehensive risk management approaches and enhance cooperation and facilitation in relation to action and support to address the damages associated with climate change.

Pacific youth in the region, including New Zealanders, have also led global advocacy campaigns and participated in climate activism, as well as coordinated workshops across the region to support advocacy campaigns and workshops to assist with climate adaptations and responses. Pacific 350 for example are considered climate change leaders leading the '1.5 to stay alive' campaign highlighting the importance of limiting global warming to 1.5 degrees Celsius above pre-industrial levels.

At a national level, most Pacific countries have adopted a 'whole-of-government' or 'whole of island' approach to climate change adaptation and disaster risk management where all government departments and partnerships with supporting agencies work together in a coordinated approach to address climate impacts. A whole of government approach is also sensible to maximise the limited resources they have and to promote better coordination between community, local and national government, and aid donors (SPREP, 2016). It is seen as a cross-cutting issue that impacts all aspects of Pacific peoples' lives, including the economy, health, justice and biodiversity, which is reflected in various regional and governmental policies and agreements (Tukuitonga et al., 2024). Siloed approaches are ineffective, particularly in the Pacific region, where governments face challenging resource constraints.

The impacts of climate change in the Pacific region affect Pacific Aucklanders through family connections, cultural ties, and transnational relationships (Newport et al., 2024b). Research has shown that Pacific Aucklanders and Pacific transnational communities provide social protections to climate change through remittances, supporting rebuilding and adaptation responses and enabling migration and mobility to new countries. The following section examines the impact of climate change and Pacific peoples in New Zealand and Auckland.

3.2. Climate change and Pacific peoples in New Zealand

There is a paucity of literature and research on climate change and Pacific peoples in New Zealand. However, studies from the broader Pacific region that include New Zealand provide some insights (Underhill-Sem et al., 2024, Yates et al., 2022). For example, evidence highlights the value of incorporating existing traditional knowledge, improving community decision-making and addressing gaps in data. These insights can help Pacific peoples in New Zealand shape local climate change responses, particularly addressing the needs of Pacific migrants displaced by climate change.

A recent research project across seven Pacific countries and New Zealand investigated a broad range of climate-related mobilities across the region. This included a case study of Pukapukans from the Cook Islands currently living in South Auckland, who are a well-established transnational community. There is a strong correlation between the impacts of climate-related changes in Pukapuka, which include changes to the environment limiting sustainable agriculture and marine food sources, and the erosion of the coastline, which has contributed to the movement of people to South Auckland. As a result, the key issue concerning Pukapukans in Auckland is access to housing in order to accommodate family and kin moving from Pukapuka to Auckland (Newport et al., 2024a).

Migration, whether individual or collective, is an important adaptation strategy, although the impact of climate change on population movement is a topic of debate (Yates et al., 2022). For example, at Tuvalu's 2015 National Summit on Sustainable Development, leaders emphasised their commitment to remain in Tuvalu, resisting the label of "environmental refugees" and focusing on building protective measures against climate change (Government of Tuvalu, 2016).

While climate-related migration can be an effective resilience strategy, it can lead to new challenges. In New Zealand, many Pacific families support relatives who have migrated, while also providing for those still living in the Pacific through remittances. Climate change could increase the financial pressures associated with this support. Lastly, in the context of Niue and the Cook Islands, it was identified that mental and physical wellbeing must be considered in response to climate mobility, with interventions drawing on traditional knowledge to support holistic wellbeing (Ng Shiu et al., 2024).

Challenges exist in maintaining cultural and traditional knowledge in urban Auckland contexts. This is not limited to just environmental knowledge but also to language and culture – a key feature in the argument for broadened scope of the FDLR. Urbanisation, generational knowledge gaps and limited access to natural environments similar to Pacific countries constrain the transmission of traditional knowledge. This was highlighted in recent research with the Pukapukan community in South Auckland as well as the Tokelauan community in Porirua in discussing the social impact of climate mobility. This research also highlighted some of the socioeconomic implications of climate change in a New Zealand context that is relevant to this present study.

Intersections between climate change and socioeconomic demographics

In the Introduction, we outlined the demographic characteristics of Pacific Aucklanders. In this section, we expand on the intersections of climate change and socioeconomic status by providing examples using household ownership and composition, income levels and employment and health status.

Pacific communities in New Zealand often live in multigenerational households and have lower incomes, increasing their vulnerability to climate impacts (MfE, 2022b). Many Pacific families live in medium density housing (MDH). A recent report on MDH in Tāmaki Makaurau/Auckland highlighted the challenge of dwellings overheating (Ovenden & McKelvie, 2024). This is a concern given a recent study that showed Pacific children are more likely to be admitted to the hospital due to heat-related illness compared to any other ethnic group (Lai et al., 2024).

Low levels of income and financial resources limit Pacific Aucklanders' adaptive capacities as they cannot afford heat pumps to manage extreme temperatures or rising insurance premiums as a result of increased frequency of extreme weather events among others (EHINZ, 2024). Pacific Aucklanders are also overrepresented in outdoor occupations and industries that are more vulnerable to climate change and adverse weather events. This includes construction, manufacturing, agriculture and service sectors (EHINZ, 2024). Heat distress from increasing temperatures and longer heatwaves as a direct impact on the health and livelihoods of Pacific Aucklanders and Aucklanders in general who work outdoors. Adverse weather events also affect the livelihoods of many Pacific Aucklanders who are more likely to be hired on a casual basis, highlighting the intersection between financial security and climate change (EHINZ, 2024).

Although limited research exists on climate change and Pacific people in New Zealand, evidence highlighting an association with socioeconomic status infers a need to prioritise Pacific communities and recognise different challenges and needs in policy settings.

National and local government approaches

Current policy settings and frameworks in New Zealand addressing climate change have evolved, but critical gaps pertaining to the engagement of Pacific peoples in climate decision-making and implementation remain. The Ministry for the Environment's National Adaptation Plan (NAP) has identified Pacific peoples (among others) in New Zealand as being more vulnerable to climate change in the coming decades (MfE, 2022a). This increased vulnerability is linked to socioeconomic disparities rather than ethnicity, which influences how climate change is experienced (EHINZ, 2024). In addition, Auckland Council's Climate Action Plan also identified Pacific peoples in Auckland as a priority population that requires additional support for climate change initiatives (Auckland Council, 2019). In line with these views, Auckland Council's Pacific Peoples Advisory Panel identified climate justice (adaptation and community resilience) as one of their key strategic priorities for the 2022-2025 term.

3.3. Summary

In summary, most Pacific-related climate change literature and research focuses on impacts in the Pacific region. Climate change is recognised in literature and research as the greatest existential threat to Pacific communities in the region, with research demonstrating how it acts as a multiplier effect by exacerbating other challenges in the region. While most media attention has been given to the climate impacts on small atoll states like Tuvalu and Kiribati, there is growing recognition of the broad range of climate impacts affecting the entire region and the differential impacts on different groups and communities. Therefore, extending climate solutions for one community in a small island atoll may not be fit-for-purpose or relevant for other communities in the Pacific.

In response to climate change, Pacific governments have taken whole-of-government approaches that reflect the interconnectedness of climate change in the everyday life of Pacific people. This approach enables improved coordination of climate efforts across all government agencies to ensure resource efficiencies. A whole-of-government approach also allows for inclusive Pacific decision-making on climate in all sectors. This is of particular importance when working with overseas donors and partners who do not understand the importance of the cultural nuances of Pacific communities. The literature has shown that climate initiatives and solutions co-designed with Pacific communities can better manage the risk of maladaptive practices and better address climate inequities within countries and communities.

While Pacific people in New Zealand are identified as being more vulnerable to the impacts of climate change compared to other ethnic groups, there is a paucity of literature and empirical evidence to understand how and why they are more vulnerable as well as research on their experiences of climate change impacts in New Zealand to assist with adequate responses and strategies. Pacific communities in New Zealand are diverse, and while current policies note the importance of looking at communities with low socioeconomic status, there is also a need to understand how different groups in Pacific communities, such as women, youth and people with disabilities, experience climate change impacts. This is to ensure that the voices of all Pacific communities are captured to devise climate action and strategies that meet the needs of all.

4. Research findings

This section presents the findings gathered from interviews and focus groups conducted with stakeholders, community members and mana whenua. These are organised into five main themes: awareness and understandings of climate change and its causes, knowledge and information sources on climate change, the impacts of climate change, the role of Pacific practices in climate change response, and enablers and barriers to climate action. Each are discussed in more detail below.

4.1. Climate change awareness and understanding

Community participants demonstrated varying degrees of awareness and understanding about climate change

Community participants commonly described their knowledge of information, facts and understanding of climate change on a spectrum ranging from *'no knowledge'* to *'being well informed on factual comprehension in climate science'*. Several noted they had limited knowledge and a few indicated little interest in engaging in the topic further. However, the majority of community participants demonstrated they had at least some understanding and expressed a range of key words, such as weather, adverse weather effects (e.g., *rainfall changes, storms, cyclones, and flooding*), climate impacts and changes (e.g., *temperatures rising, sea level rises, ice melting, erosion, marine changes*) and human activity (e.g., *vehicles we use, pollution, mining, capitalism, cars and cutting down trees*) to describe climate change.

The responses from one focus group reflect the views expressed by several community participants when asked what climate change is:

> *I think straight off the bat, change of seasons comes to mind. I think about temperatures rising, sea levels rising. (Community participant, #21)*
>
> *I think for here in Auckland, we had that flooding the beginning of last year or the year before, and especially with the hurricane, obviously the weather is a lot more intense now. (Community participant, #22)*

The views presented above demonstrate a broad understanding of both slow onset events such as temperature and sea levels rising as well as natural hazards and adverse weather events like flooding and hurricanes.

Some community participants used scientific terms such as carbon emissions in their descriptions, and a few noted human activity with specific examples such as mining and gas exploration. This is exemplified below:

> *Climate change to me, is a result of this capitalist society that we live in. Because the whole idea of capitalism is to make money and profit. To make profit, we're extracting resources and doing things like mining and gas exploration and that's driving things like ocean acidification and warmer temperatures and more carbon emissions. For me personally, climate change is a result of colonisation and capitalism. (Community participant, #39)*

This community participant is involved in climate justice campaigns and therefore has fluency in climate change in the Pacific. Their views on colonisation and capitalism were discussed in general terms about the Pacific and New Zealand.

Most community participants' awareness of climate change was described as the effects or outcomes of climate change, such as the loss of land, changes in weather patterns or degradation of the environment. Those who said they had experienced climate change firsthand, whether in their home island or in Auckland, had a better understanding of climate change and were more likely to view it as an immediate concern rather than a distant or abstract issue, as expressed by participants who had stated they had no knowledge of climate change.

> *My awareness about climate change started in Tuvalu because of events like cyclones. But, the broad understanding of what's causing climate change, I wasn't aware of that, but I knew that something was happening in my immediate environment because of the erosion of some parts of the land. I knew the effects before [I understood] the cause of climate change. (Community participant, #32)*

Almost all participants noted an awareness of the importance of climate change for the Pacific region and considered it a pressing issue in need of urgent response. Only a few described climate change as an important issue for Auckland and there was not the same sense of urgency in response to climate change for Auckland as it was for the Pacific region.

> *I had an interest [in climate change] even prior to the floods because I have family that live in Tokelau and it's actually sinking. Kiribati and Tokelau [too]. Just watching Tangata Pasefika, they have been touching on it for many years and there are people advocating for change [in the Pacific region]. (Community participant, #5)*

The breadth of understanding of community participants also aligned with themes from key stakeholders including Pacific climate researchers who are currently conducting research on climate change with Pacific people in New Zealand. Their take was that there is a general public assumption and perception that all Pacific people have in-depth knowledge of climate change given the impacts in the Pacific region. However, this is a known fallacy in Pacific climate circles with key stakeholders noting that:

> *It's mostly students and people who are engaged in climate advocacy or research who understand what climate change is ... But yeah we haven't really looked into [Pacific Aucklanders'] understanding of climate change … like I don't know of any other research that is looking into this in New Zealand – our research is on climate resilience, disaster risk reduction and resilience. (Key stakeholder, #3)*

Overall, many community participants understood climate primarily as changing weather patterns and adverse weather effects. Most of them described climate impacts as temperature rise, sea level rise, shifting temperatures and increasing natural disasters such as flooding and cyclones.

Participants' attitudes towards climate change were influenced by cultural, religious and lived experience contexts

Several community participants who identified as Tuvaluan, Kiribati and Fijian strongly emphasised that climate change was not just an environmental concern but one tied to the survival of their people and the preservation of their culture and way of life. These participants noted that the threat of rising sea levels has resulted in forced migration to New Zealand and other countries and a new set of challenges for migrant populations to maintain their culture and language. Participants

expressed a strong sense of urgency for climate action in the Pacific region, and the need for more action-oriented approaches to addressing climate change.

> *The very thought of losing your homeland, having it pretty much erased from the face of the earth, that's just heartbreaking. That's why my tears can't stop. My ancestors, my grandparents are buried there. When someone is born, their placenta is buried in the earth and we put a plant on it. Traditionally, it's the tree of life concept. We are connected to the land through our placenta, we're born and planted into the land. So when that land is gone, they are also erased from the earth. That's how powerful and disheartening it is. The culture and the heritage is lost. It's not just the physical. (Community participant, #33)*

Participants expressed differing climate change perspectives within their religious and faith communities. For example, some viewed climate change as a sign of the end-of-time, leading to a fatalistic outlook and reduced motivation to act.

> *In terms of trying to reduce climate change, I don't think it's ever going to happen. I think my responsibility is to get my kids right because there's nothing they can do or we can do to stop climate change from getting worse. … If I just get my kids right, knowing who the creator is, walking in and following in Christian values, I think they'll be safe. Because death is coming anyway. Like I said, no matter what we do to try and reduce climate change, it's too big of a Goliath. (Community participant, #20)*

Other community participants emphasised the moral and spiritual responsibility to care for the environment, advocating for sustainable practices as an expression of faith.

> *We don't talk about climate change in my grandparents' church because, [it's] not that they don't believe in climate change, but they're like, "It's the end times, these things are bound to happen. The world's getting punished and we're getting judged". Whereas the other church I go to, they believe God's entrusted man and women with this responsbility to take care of [the] earth. (Community participant, #6)*

> *Sometimes, when it happens to other big countries, the first thing you think of is that they don't go to church. But sometimes, it's just the weather, you know. It all depends; they need to still have faith, still pray to Lord God and everything and have your faith but realise that you also gotta do the other side. The other part. You gotta act as well. (Community participant, #19)*

The quotes above exemplify Pacific worldviews, which are strongly tied to spiritual and religious beliefs as well as demonstrating generational differences where grandparents have a fatalistic view while others community participants express Christian pragmatism, which reflects the belief that faith and action go hand in hand.

Although no community participant explicitly denied the existence of climate change, a small number expressed scepticism about *'the evidence'* for climate change. These community participants noted that scepticism and dismissiveness of climate change for Pacific peoples may be due to a lack of awareness about climate impacts in Auckland. In line with this view, one participant's initial reservations and minimisation of climate change reversed upon realising the actions and connecting the impact of Auckland-based behaviours and practices on climate in the Pacific region. Subsequently, emotional connections, lived experiences for family members surviving adverse weather effects on their home island and conversations about climate change and action were forthcoming.

> *I've spoken to a few people and they say, 'We don't know that climate change is real. Is it really happening?' I can understand why people here in New Zealand don't relate to it … if you're living here in Auckland, you don't really see the impacts, hardly. (Community participant, #34)*

A small number of community participants involved in climate advocacy also noted that scepticism and dismissiveness of climate change for Pacific peoples may be influenced by deficit-based narratives about climate change that were perceived as carrying '*white saviour'* connotations that frame the Pacific as '*drowning'* and in need of saving. One reflected on their experience at school where climate change was introduced through a topic called *Saving the Pacific.* They felt this positioned Pacific nations as helpless and dependent on external aid.

> *I went to [name] College, a predominantly white space and the way they taught us about climate change – this was the first time I had ever heard the term – was in a topic called 'Saving the Pacific'. … That experience made me really aware that climate change came with the connotation that Pacific people were powerless. (Community participant, #39)*

Causes and potential solutions and mitigations for climate change

Participants commonly attributed climate change to one or more of the following three causes: human activity, corporate greed where multinational corporations prioritise profit at the expense of environmental sustainability, and financial barriers to minimising climate impacts.

Human activity: Many participants recognised that everyday behaviours, such as trading goods, imports and exports and generating waste through excessive consumption, contribute to carbon emissions and climate change.

> *I think half of that stuff around emissions is because we ship our food from all over the world. We get our mangoes from Peru and South America instead of growing and eating local. We grow our cows here and then we sell our meat halfway around the world. (Community participant, #15)*

Many also identified driving cars as a behavior contributing to climate change and noted factors like affordability, convenience, and lack of alternatives limit their ability to adopt more climate-friendly solutions. For example, some participants used public transport because it was more affordable, while others avoided it due to its unreliability.

> *We have one of the highest [rates of] private vehicle usage in the OECD, and I think that us not having a reliable public transport service has made people rely more on cars and that is a big factor in our carbon emissions. (Community participant, #16)*

The sentiment expressed above was supported in other fono/focus groups where a few community participants stated they would use Auckland's public transport network if it were as reliable and well-connected as networks in Australian cities like Brisbane and Sydney. One person shared that they had no real alternative but to drive from their home in West Auckland to work in South Auckland on congested motorways due to the lack of viable public transport options. Others noted that the existing public transport options would double their commute time, limiting their availability for after-school activities with their children.

> *Public transport needs to be sorted. I think everyone in Auckland complains about that. It's so unreliable. How are people supposed to get to and from places if they can't rely on their bus to arrive at a certain time. (Community participant, #28)*

Corporate greed: Many participants expressed a strong belief that large multinational corporations, driven by profit, play a significant role in climate change. They pointed to corporations prioritising short-term financial gain over sustainability, engaging in activities such as large-scale pollution, overconsumption of resources and lobbying against environmental regulations. There was also a sense that while corporations have the means to lead climate action, they often do not take responsibility unless pressured to do so.

> *What can our individual actions do? It can't compete against corporate greed. It comes down to money. Money and greed is more powerful than us … we play our part, but corporations with their farming practices that are not sustainable, you find some forests on the map that are suddenly gone. That ties to corporate greed and stuff. Corporates need to have corporate climate tax on them. (Community participant, #19)*

> *In my mind, if anyone's going to come up with a solution, it'll be someone whose bottom line is at risk. (Community participant, #18)*

Financial barriers: Although a few participants explicitly named poverty as a cause of climate change, most discussed financial barriers to making sustainable choices, such as installing solar panels or purchasing electric vehicles. Most also noted a need to prioritise the cost of living over climate action. While they care about climate impacts in the Pacific, their main focus in Auckland is managing daily expenses, which limits their climate-friendly actions.

> *To put it bluntly, some of us can't afford to be environmentally friendly. (Community participant, #35)*

> *Money talks to allow for better [climate] action…you've got other priorities to focus on…can't afford to buy a hybrid car. (Community participant, #2)*

A key stakeholder who advocates for tagata sa'ilimalo[4] reminds us that climate change not only disproportionately affects low-income families who are often Pacific, but the impact is worsened for those with disabilities. They and their families often have fewer resources to prepare for or recover from extreme weather, must consider challenges in accessing medication and healthcare in the aftermath of an extreme weather event and are more likely to live in areas vulnerable to climate events. Health effects, such as a heatwave exacerbating heart or breathing issues, further heighten their vulnerability.

> *It's an added vulnerability. For example, in the storms, you have to think about where and how to get medicine; on top of losing your home, you're trying to find an accessible one. If you are in a wheelchair, how easy is it, in a climate emergency, to leave your home? There is the added cost of paying for medicine that other people don't have to think about when something like a flood happens. We already know that Pacific people have lower incomes, and our vulnerable people have even less to face those added challenges with. (Key stakeholder, #5).*

4.2. Knowledge and information sources on climate change

Participants access climate change information from numerous sources. The most accessed sources include social media platforms, traditional media sources and family and friends. Schools and other educational institutions, research papers and official reports were also identified as sources of

[4] Pacific disabled people, their families/*nofo-a-kainga,* and carers/supporters/*tautua soifua* in Aotearoa).

information but were accessed by a smaller number. Community participants also ranked these sources by the most- to least-trusted sources during in-person talanoa and expressed varying levels of trust and confidence in the credibility of the information, as summarised below.

Social media platforms: Most participants gained climate information through social media platforms, especially TikTok and Instagram feeds and reels by climate advocates and influencers. These played a significant role in shaping their perceptions of climate change. However, the degree to which participants trusted these platforms varied. Some found the content relatable, trustworthy and engaging, while others were more cautious.

> *I don't actively search for stuff about climate change, but it comes up on my social media. When other people push it, it gets bumped up on my algorithm. … When I see oldies, brown people pushing it and usually social media is their form of [sharing] information, they seem quite transparent, so I trust it. (Community participant, #8)*

Traditional media sources: Traditional media sources, particularly TV news, were another key source of climate information. Most viewed these sources as reliable, but there were mixed feelings about the depth of coverage and a few felt that there was too much focus on climate impacts overseas and not enough focus on New Zealand.

> *On the news, there have been talks, but they're not that long; they're only about a minute, not even a minute and then they cut to another story. When I watch it, I feel like they're trying to squeeze all the information into that one segment and it doesn't really make me understand what they're talking about. It just makes me think, what is the whole point of their segment? I literally learnt nothing out of what they were trying to say. (Community participant, #12)*

Friends and family: Conversations with friends and family, including exchanges between older generations like parents and grandparents and younger ones, were commonly cited as sources of information. While these discussions helped raise awareness and motivate action in some cases, they sometimes led to misinformation spreading or disagreements.

> *I've struggled explaining climate change to my parents to make it a priority. I'd be going to marches and doing Pacific climate work but Mum's like 'just focus on Uni'. I've avoided trying to get them to listen because that doesn't go down well. I just show them how passionate I am and hope they realise how important it is to me and one day ask ' let me learn more about it'. (Community particpant, #40)*

Schools and other educational institutions: Younger participants noted that they were exposed to climate change discussions through school. Others noted that their children shared what they knew/learnt about climate change at school with other members of their family. Participants commonly considered younger Pacific Aucklanders as being more knowledgeable and engaged in climate issues and suggested a need to introduce climate change education and actions into the entire school curriculum (from primary to secondary levels).

> *It's this [younger] generation that makes climate change important because they are learning about it [at school] whereas us, the older generation, we never learnt about it. So we're giving them their freedom to speak about it and do something. (Community participant, #17)*

Research papers and official reports: Those looking for more detailed scientific information turned to research papers and official reports. While regarded as credible, they were generally seen as less accessible to the wider community.

Key stakeholders, particularly from academia and nongovernmental organisations, have established community talanoa groups and hubs in Auckland to share reliable climate change information that is accessible and relatable to Pacific people. They noted a need to support these existing efforts to extend their reach more widely across diverse Pacific communities in Auckland.

> *In terms of driving it, there are Pacific climate groups in Auckland like Pacific Climate Warriors, Pacific Vision Aotearoa, 4TK [4 Tha Kulture], there is a lot of knowledge already in Auckland and brown leaders who live here who can already run things, but it needs to be supported by those outside of our Pacific community. And I'd add that community leaders working hand in hand with those climate groups would be beneficial as well, like our churches. There are spaces and opportunities within our churches, but we need to support them more to be able to do that. Auckland Council need to diversify their funding and review how it can become accessible to our communities. (Key stakeholder, #3)*

Respected community leaders are best placed to facilitate workshops because community participants trust them as reliable sources of information. While they may not have expertise in climate change, their strong relationships within the Pacific community make them effective facilitators. This was reiterated by several informants, many who used the Pacific response to COVID-19 as an example of how Pacific leadership led to better community engagement and vaccine uptake.

> *Look at what happened with COVID. Our people know how to reach our people because we are out there every day, supporting with education, housing, affordable food, that sort of thing. So in hazards and emergencies, our leaders are there with the community. We know how to reach our people because we are already doing it. (Key stakeholder #3)*

However, it is important that community leaders are properly briefed. At one disaster-related community event, the host mentioned that, as Pacific people, we have a lot of experience in dealing with natural disasters. Based on their own personal experience their advice was *'during a cyclone, to run'*. While this may have been said in jest, as humour is a great communication engagement tool, this advice on its own is both unhelpful and dangerous as standard safety protocols recommend seeking shelter and staying indoors.

While understanding who people trust for information is important, it is worthwhile noting that a few participants said they disengage or actively avoid seeking out information because the topic can lead to feeling overwhelmed and/or a sense of learned helplessness. These emotional responses can lead to them wanting to protect themselves by not engaging in climate change conversations.

> *I find it quite discouraging. Sometimes, I don't want to see the news because it is quite disheartening watching. Although I empathise with how things are, I take things emotionally and I will change the channel because I see the disasters, but it's something I can't control or support or help with. (Community participant, #33)*

4.3. Climate change impacts were viewed as global and not local

Most participants viewed climate change as a global issue for the Pacific region and not a concern locally in Auckland. Climate impacts were commonly discussed within the context of the Pacific region and most participants struggled to identify and think of climate impacts in Auckland. While some participants recognised changes in Auckland's weather patterns, there was limited awareness of other local climate impacts. The key findings on impacts include:

Climate change is seen only as a global and regional issue: Participants largely viewed climate change as a global issue, with a stronger emphasis on its effects in the wider Pacific region rather than Auckland. When probed about the adverse weather events of January 2023 that led to the Auckland floods many participants did not consider these as impacts of climate change or make any connection between extreme weather and climate change.

Personal experiences and stories were all Pacific-based: Relatedly, most participants provided examples of climate impacts based on their experiences or stories from family members on their home islands. These impacts included food insecurity with fishing and gardens, rising sea levels, frequent floods and cyclones and variability in seasons and rainfall. For some, past experiences of rising sea levels, extreme weather or land loss in their home countries continued to have an emotional impact.

> *In my mum's lifetime, she's seen so much of the fanua [land] go underwater and she's seen sea levels rise. So, for me, I grew up learning about climate change through the stories about life in the islands. That's the way we think about it and talk about climate change, through the community connections we have. (Community participant, #40)*

Many noted unpredictable weather in Auckland, but few recognised other impacts: Almost all participants found it difficult to identify any Auckland-based climate impacts. When participants were provided with possible climate impacts by facilitators, some participants acknowledged changes in weather patterns, such as flooding in recent years and more extreme temperatures. However, there was little awareness of other local impacts, such as impacts on marine environments, air quality, health or the economy.

4.4. Traditional knowledge and practices in climate change response

A key research question for the study was to explore Pacific traditional practices, knowledge and responses to climate change, and broaden understandings about their applicability in Auckland and '*…how [indigenous knowledge] could further inform and be applied to community adaptation plans in Tāmaki Makaurau/Aotearoa' (Auckland Council RFP, 2024)*. There were two main themes in participants responses, discussed below.

Respecting the role of mātauranga Māori

Stakeholders and Pacific advisors commonly emphasised the importance of understanding and respecting the role of mātauranga Māori and relationship between Pacific peoples and Māori as the indigenous population of Aotearoa

> *Well, yeah – I can see how [non-Pacific] people would be interested in that ... but as you know there needs to be care there. I would have thought you would have been better off asking tangata whenua and Māori about what their traditional knowledge and practices were before. (Key stakeholder #1)*

Mana whenua representatives used the tuakana-teina concept to describe the relationship between Māori and Pacific Aucklanders, emphasising the deep ancestral and historical connections Māori have to the Pacific. The tuakana-teina relationship is built on reciprocity, where the tuakana (mentor or older sibling) nurtures and supports the teina (mentee or younger sibling). They highlighted the importance of tuakana-teina relationships between Māori and Pacific people given the whakapapa back to the Pacific where Māori ancestors and migration began from. In the Tāmaki Makaurau

context, Māori are tuakana, and Pacific Aucklanders are teina; however, in the Pacific, these roles are reversed.

> *The relationship we have is special and shows the mutual respect and intergenerational responsibilities over deep time between Māori and our Pacific brothers and sisters. (Key stakeholder, #6)*

The tuakana-teina concept also extends to the natural environment emphasising the role of taiao (nature) as tuakana by protecting, nurturing and sustaining life and tangata (people). This concept, therefore, understands the importance of environmental stewardship and protection, which are fundamental to cultural identity and wellbeing. These sentiments also align with those from Pacific key stakeholders and community participants.

The applicability of traditional Pacific climate change responses in Auckland's metropolis

Many stakeholders and Pacific advisors expressed concerns that traditional climate change practices, knowledge and responses relevant to the Islands are not directly comparable to urban environments such as Auckland.

> *First of all, it's a completely different environment, right? Just the fact that we're in different latitudes that has a completely different bearing on the types of temperature, weather patterns and daylight, so the effects and impacts are different, right? Look at us; we're sitting here in a concrete jungle, so the built environment also affects climate impacts. I didn't think there was any city in the Pacific that is like Auckland? (Key stakeholder #2)*

Although many community participants initially struggled to identify 'traditional practices', they described everyday ways of living in their island homes that could guide the Auckland Council's response to climate change. For those born in New Zealand, responses were either based on information passed down to them by family members, or they did not contribute to the discussion.

Some responses noted by community participants fall outside the remit of Auckland Council. Change in these areas would require collaboration with other agencies, community organisations and central government; however, it is worth noting the responses discussed during the fono/focus groups, which included:

Sustainable food sourcing: Sustainable farming and fishing methods were highlighted as examples of encouraging more sustainable food sourcing in Auckland.

> *Indigenous people have certain times when they can fish. I feel like we [in New Zealand] fish all year round, every day. People are just greedy. But there is a season for when to fish and how to fish so that we are also protecting the oceans. (Community participant, #19)*

Waste reduction: Recycling initiatives, such as cash incentives for returning glass bottles, were also noted as practical approaches that could make waste reduction more rewarding and appealing.

> *I reckon incentivising things, competitions, if you recycle X amount of bottles and cans, then you get rewarded for recycling and it becomes like a habit. If you offer brown people, even just people in general, something where you can get money out of it, it can push a lifestyle change. (Community participant, #13)*

Resource conservation: The careful use of water and electricity in the islands, driven by an awareness of scarcity, was another key point. Participants suggested that fostering this same

mindfulness in Auckland could help reduce wasteful consumption and overconsumption of food and goods.

> *We started introducing water restrictions. Like, there was a certain time where they turned off the water. I know they did in Tonga, back in the day. (Community participant, #21)*

Climate-resilient housing: Traditional homes like the Samoan fale were highlighted for their climate-resilient design. These structures allow winds to pass through with minimal damage and naturally regulate temperature. In contrast, Western-style homes with rigid walls and windows can fail in extreme weather. Participants suggested that Auckland Council consider adopting similar practices of designing climate-resilient architecture better suited to Auckland's changing climate, including extreme heat and cold.

> *You look at the way they design houses in Samoa, traditional houses not Western hourses. They are made from natural materials. They didn't have concrete bases, they had stone, rock and pebbles. I didn't understand how that could be comfortable until I went there. When you step on it, it actually moves to your feet. When you put a fala (mat) on it and lie down, it's like lying on a mattress, it contours to your body. If it gets cold, you roll down the sides and if it gets hot you roll them up. It's an ingenious design. (Community participant, #18)*

Coastal protection through planting: Participants discussed planting vegetation, such as mangroves, to protect coastal areas from erosion. This approach could play an important role in helping Auckland strengthen its resilience to rising sea levels and increased storm events.

4.5. Enablers and barriers to climate action

Participants were asked to reflect on how to tackle climate change in Auckland. They were invited to respond first, and then researchers probed further, encouraging them to consider individual actions, collective actions as a Pacific community and what actions Auckland Council could take, if their initial responses did not address these levels. They were then asked, "What factors prevent you from taking climate action?" and "What factors help and support you in taking action?"

During these discussions, most participants expressed climate action aspirations rather than detailing individual and/or collection actions in response to climate change. For instance, while some use public transport, most do not consider this as sustainable due to the unreliable nature of Auckland's system. Others mentioned recycling their waste but would do so more consistently if not constrained by small bin sizes. A few participants aspired to switch to solar panels but were hindered by the cost. Interestingly, in response to the questions posed, most participants emphasised that individual and collective climate action required promotion and education among Pacific communities and identified several enablers and barriers to effective climate action.

Enablers to climate action

The enablers for Pacific-led climate action aligned closely with findings related to community-led solutions informed by cultural contexts, incentivising climate-friendly behaviours to address financial constraints and ensuring intersectoral collaboration. The key discussion points are outlined below.

Community-led solutions: As discussed previously, active engagement with Pacific community groups and leaders is essential to ensure climate actions reflect local needs and values. One

participant shared, *They only expect us to have a voice when we're singing* reflecting the importance of giving Pacific communities a genuine platform in climate discussions.

Cultural framing of climate action: Linking climate change initiatives to Pacific values, such as respect for the land and community service, can enhance motivation and participation.

> *It's having the information handy in ways that are digestible and framed around who we are, not just the polar bear sitting on melting icebergs dying. That's tragic, but I'm Samoan. If you showed me my Mum's village underwater, then I'm going to get upset. Or if I see ma'umaga [plantations] that don't grow kalo [taro] because the ground's been contaminated by salt water, that's an issue. (Community participant, #18)*

Storytelling as a tool: Using storytelling, particularly from Pacific communities, can help raise awareness and build a deeper connection to climate action.

> *The ways that I describe it to the general public is through lived experience of what our family has been going through like Cyclone Evan and sea level risings. You bring it back to what they already know and that's how they understand it more clearly. When I explain climate change, I tell stories of it like that. (Community participant, #39)*

Incentives for sustainable behaviour: Providing rewards for recycling or subsidies, for example, for solar panels, would make sustainable practices more accessible and appealing.

> *Solar panels. It would be really great to have them available and be affordable… they could probably subsidise solar panels, since it's a reusable source of energy, to be beneficial for the electricity infrastructure in Auckland. (Community participant, #11)*

Empowering youth voices: There was strong support for including young people in climate decision-making, recognising their potential to drive change.

> *You have to take advice from many places and with these young ones, they have a lot to give. It's hard to take advice from someone you consider moepi (young and inexperienced), but they are the ones that are going to inherit this. (Community participant, #18)*

Intersectoral collaboration: Climate change actions were most effective when they connect across sectors, such as housing, transport, health and education rather than being approached in isolation. Key stakeholders particularly highlighted the opportunity to build on community strengths by partnering with sectors and service providers already supporting Pacific wellbeing. For example, improving housing quality not only enhances health and energy efficiency but also strengthens climate resilience.

> *We need to stop working in silos. Climate change is not just an environmental issue. We need to work together with the education sector, housing sector, Pacific businesses, etc. We need to lift the overall wellbeing of Pacific people because people can't think about climate change if they are worried about putting food on the table. People can't make changes to their homes if they don't own them. They can't think about what they will save in electricity from solar panels if they can't afford the solar panels. There are opportunities, but we need to step out of the silos to realise them. (Key stakeholder, #5)*

Barriers to climate action

Conversely, the barriers to climate action were identified as economic constraints and the need to prioritise the costs of living in Auckland, lack of reliable alternatives to private car use, and to simplify climate education and messaging. These are discussed below:

Economic constraints: Financial limitations and a need to prioritise living expenses prevented many Pacific communities from adopting climate-friendly behaviours, such as switching to sustainable transport options.

> *Money talks, you know. There are competing priorities. Climate change is just one thing, and when I'm struggling [financially], there's just no money to improve climate change. You want us to buy electric cars, but I can't afford it. I'm in survival mode at the moment. (Community participant, #2)*

Reliability of public transport: Improving the affordability and reliability of public transport in Auckland could make it easier for Pacific communities to reduce their reliance on cars.

> *I think to help reduce the car population, to be honest, you need reliable transport hubs. You need reliable trains because most of the time, the trains are delayed. Some people, like me for instance, I drive and I'm a single person in a car, but because public transport is not reliable and it costs, yeah, no public transport for me today. (Community participant, #23)*

Complicated language and terminology: Climate change education needs to be more accessible and understandable, with terminology simplified for better engagement.

> *I don't have this kind of knowledge. I don't know what's contributing [to climate change]. I think most people don't know. It's about being specific and giving us an easy way that we can contribute and make it relevant, like bringing awareness to all the different areas of the community, not just in schools, but what about workplaces. (Community participant, #35)*

> *I want to know how to stop it, but understanding the language is a barrier for Pacific people. Some English words are hard to understand. Even though our Pacific people do speak English, there are terms in English that I don't understand. But if it could be interpreted in a way where they could say, "Okay, this is how things should be done, and this house could do this", then I can understand, and the likes of my parents can understand. (Community participant, #41).*

The quotes above reflect common themes that climate knowledge should be made more accessible, easy to understand and more relevant to an Auckland context for Pacific Aucklanders. This is an important point to note in order to engage all Pacific communities and all Aucklanders to be more climate-minded. This approach was supported by stakeholders who were researchers, who noted that:

> *We definitely need research and evidence about climate change in the Pacific and Auckland, especially attribution studies, but this information shouldn't just live in academic papers or technical reports. We need this information in our communities because it affects everybody, and it is everybody's responsibility. (Key stakeholder, #3)*

Access to funding for climate action initiatives: Smaller, community-led climate change groups struggle to access funding, which tends to be concentrated in larger organisations.

> *Auckland Council really need to diversify their funding and reach out to various groups who can do stuff within different spaces. From my experience, all the funding for Pacific projects goes to a few certain organisations. I know in some funding spaces, it's a bit hard for churches to claim climate*

funding because they're religious organisations and that's a barrier for Pacific accessing funding. I would like to see open grant applications or something like that so Pacific people who might want to start up a project, but not neccesarily know the mechanisms of networking, can start initiatives. (Community participant, #40)

4.6. Discussion and summary

The research findings highlight the complex climate change challenges faced by Pacific Aucklanders, shaped by the intersecting factors of socioeconomic status, cultural frameworks and transnational connections. They highlight that Pacific perspectives on climate change resonate with global attention on the Pacific region in regard to changing temperatures and sea level rise.

The diverse range of knowledge and awareness levels of climate change are consistent with previous research findings. Prior research suggests that awareness can be limited due to the gradual nature of impacts and cultural understandings as well as socioeconomic challenges influence motivation to act (Barbara et al., 2023; Beyerl et al., 2018). The research findings from this study highlight gaps in knowledge and misinformation that influence Pacific communities' engagement in climate action. Therefore, there is an opportunity to shift current negative perceptions and ambivalence about climate change and reframe them into positive climate change narratives that motivate action and resonate with Pacific communities.

The research findings infer that Pacific Aucklanders' motivation to engage in climate action may be enhanced by key messaging focused on broader family and community impacts rather than current climate crisis and/or deficit-based narratives. Community fono and key stakeholder interviews highlight the need to recognise and incorporate Pacific communities' leadership and knowledge in any climate action strategy to form genuine partnerships and enhance Pacific Aucklanders' engagement. The response to COVID-19 was used as an example of how this approach was effective in improving community outcomes, and responses were highlighted in the literature and in interviews and fono/focus groups.

A large-scale survey (n=1,000) conducted by TRA for the Ministry for the Environment (2022c) found that New Zealanders primarily get their information about climate change from the media (63%) including TV, radio, newspapers and podcasts, followed by social media (33%) and online articles/blogs (28%). However, the most trusted sources of information were environmental organisations (41%), the media (40%) and government agencies (30%). The research findings from this study highlight the importance of engaging Pacific community leaders to help ensure people access accurate and relevant climate information for informed decision-making. Information can be shared online or through existing community hubs, talanoa groups, or through existing Pacific events. While traditional media and government reports play an important role in disseminating climate information, this information also needs to be in formats that are engaging, accessible and easy for everyday Pacific Aucklanders to understand. As discussed above, narrative storytelling can be especially valuable.

The cost of living is the main priority for Pacific Aucklanders. Participants noted general public assumptions that climate change is a priority for Pacific Aucklanders given the impacts in the Pacific region. However, the research findings in this study highlight that Pacific Aucklanders are more concerned with economic constraints, which also reflects findings from Pacific people in the region

(Newport et al., 2024b). While participants care deeply about and respond strongly to climate change impacts in the Pacific region, their primary concerns in Auckland centre on the cost of living. Subsequently, climate-friendly behaviours are not a daily priority. This suggests that while there is an overwhelming concern for climate impacts on family members and communities in the Pacific region, immediate economic challenges take precedence, limiting long-term sustainable practices in Auckland.

5. Conclusion and considerations

5.1. Conclusion

This research lays an important foundation for addressing knowledge gaps about Pacific people in Auckland and their perspectives and understanding of climate change. While most climate policies and strategies have identified Pacific populations as being vulnerable, it is important to understand how Pacific Aucklanders themselves view climate change to inform effective adaptation and implementation strategies. Pacific Aucklanders' perspectives on climate change reflect divergent views on climate change and the multiple sources of information that they access. Their observations about environmental changes and impacts reveal the intersections between climate science, traditional knowledge and religious beliefs.

Effective climate strategies and policies for Auckland require integration into broader socioeconomic priorities rather than treating climate change as an individual issue. Affordability is a critical consideration for community participants with climate-friendly choices needing to be economically viable for households and families already facing significant financial pressures. Therefore, climate adaptation strategies and approaches should emphasise the tangible co-benefits of climate action for the livelihoods of Pacific children and families as well as for the environment. The findings consistently show that climate initiatives would be more effective when they are connected to socioeconomic concerns such as affordability, access to transportation and economic opportunities.

Meaningful engagement with Pacific communities will help to devise strategies that address both practical constraints and cultural understandings. This requires engagement beyond consultation to encourage and incorporate Pacific communities in decision-making to ensure equitable climate responses across Auckland. Better Pacific policy engagement has the potential to influence and enhance community support for climate initiatives.

The findings presented here show how lived experiences, cultural perspectives, and socioeconomic realities must inform the development of effective climate action strategies that are relevant and actionable. Future research can build a more comprehensive understanding of climate knowledge, attitudes and behaviours among Pacific Aucklanders. While this present study has provided important qualitative insights, further research into communication approaches can help to inform effective communication campaigns to address current knowledge gaps for Pacific Aucklanders.

5.2. Opportunities for Auckland Council

The following recommendations are based on the research findings and outline considerations for climate policies.

Recommendation 1: Increase climate change awareness through a comprehensive communications strategy

There is an opportunity to harness the deep concern Pacific Aucklanders have for their home islands to raise awareness about how local actions can have global environmental outcomes. While many of the people we spoke to recognise corporate actions and responsibilities in contributing to climate

change, connecting family and individual behaviours remains a challenge. By highlighting how personal choices in Auckland affect broader climate patterns in the Pacific region, a stronger sense of agency, advocacy and responsibility can be fostered within the community.

Key considerations include:

- Utilising storytelling, creative arts and other culturally relevant methods to engage Pacific communities for climate education campaigns.
- Engaging and empowering Pacific community leaders to front and lead campaigns.
- Framing messages around the co-benefits of climate-friendly actions for families and better future outcomes for children will resonate more with Pacific Aucklanders.

Recommendation 2: Reframe climate-friendly behaviours as affordable as well as environmentally sustainable

Greenhouse gas reduction is essential to address climate change. However, for Pacific Aucklanders to adopt more environmentally sustainable behaviours, climate-friendly choices must be convenient, simple and cost-effective.

Key considerations include:

- Promoting the use of public transport and providing a reliable and affordable public transport system
- Encouraging better recycling habits earlier for children and young people so it becomes an everyday practice.

Recommendation 3: Support Pacific-led climate action

Strengthening partnerships between local government, community organisations and business is one way to amplify Pacific leadership and create lasting community-driven solutions. These partnerships will be able to leverage diverse perspectives and skills for improved effectiveness, efficiency and sustainability of efforts to reduce greenhouse gas emissions. Additionally, identifying the key figures who can deliver these messages most effectively and motivate change is important. Collaborating with Pacific peoples throughout this process would help ensure that messaging is culturally relevant, impactful and drives change.

Key considerations include:

- Ensuring diverse voices are included in decision-making about strategies, policies and implementation for climate responses.
- Broadening current Auckland Council networks to expand reach and engage with the wider Pacific community.

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Appendix 1: Rapid literature review method

This rapid literature review builds on an initial scoping review undertaken by Auckland Council's Social and Economic Research and Evaluation (SERE) team before commissioning this research.

The next stage involved searching Google Scholar and Elsevier databases for published literature on Pacific Aucklanders and climate change. The key search terms included:

- Pacific peoples / Tangata Pasifika / Pacific Islanders
- Auckland / Aucklanders / Tāmaki Makaurau
- Climate change / climate mitigation / climate adaptation / global warming

Given the limited results, the search terms were expanded to include:

- New Zealand / New Zealanders / Aotearoa
- Pacific region / Pacific Islands

In addition, websites of key organisations with relevant publications and reports were reviewed, including the Ministry for the Environment, Ministry of Foreign Affairs and Trade, Ministry for Pacific Peoples, Auckland Council and the National Institute of Water and Atmospheric Research (NIWA)

Relevant material was identified, downloaded, and reviewed. Previous research and evaluations conducted by the research team on climate change were also considered. Further, unpublished literature was identified through professional networks, including Auckland Council's Research and Evaluation Unit and the Project Advisory Group. Reference lists of reviewed literature were also examined for additional sources.

Appendix 2: Research question guides

Community participants

Focus groups and interviews were conversational, so question wording and order varied and was adapted slightly for each audience.

Focus groups

Introduction

Thank you for taking the time to talk to me today. We want to talk about your views on climate change, including your awareness, perceptions of its impacts and the factors that influence your climate-related actions.

It is important that you understand that you don't have to talk to me if you don't want to and that you don't have to answer all the questions. Your name will not be used, and we will do our best to make sure you cannot be identified in the report. A reminder that everything shared within the focus group should be treated as confidential and what is shared in the group should stay in the group.

Confirm that the interviewee(s) consent to participate and whether they agree the focus group can be recorded.

Introduction

1. Ice-breaker - Tell me a little bit about you…
   - Age, gender, where are you from.

Knowledge, Awareness and Attitude

2. Activity using post it notes: What is climate change? – please describe in your own words? What does it mean to you?
3. What more do you want to know about climate change?
4. How important is climate change to you, your community?

Causes

5. What do you think causes climate change?

Knowledge sources

Introduce educational slide

6. Activity – post its: How do you know what you know about climate change?
7. Activity – mark with a lolly: Where do you get information from?
8. Activity – mark with a star: What information sources about climate change do you trust the most? Why?

Impacts

9. What impacts have you seen as a result of climate change?
10. What things do you consider as actions to address climate change?
11. What are the things that stop you from taking climate action?
12. What things help and support you with climate action?

Resilience

13. Are there any Pacific practices that we can harness to protect us from climate change impacts?

Anything else?

Is there anything we haven't covered that you would like to discuss? Are there any other comments you would like to make?

Thank you for your time and participation.

Key stakeholder interviews

Introduction

Thank you for taking the time to talk to me today. We want to talk about your views on climate change, including your awareness, perceptions of its impacts and the factors that influence your climate-related actions. It is important that you understand that you don't have to talk to me if you don't want to and that you don't have to answer all the questions. Your name will not be used, and we will do our best to make sure you cannot be identified in the report. Confirm that the interviewee(s) consent to participate and whether they agree the interview can be recorded.

Introduction

1. Ice-breaker - Tell me a little bit about you…
    - Involvement in climate change action and motivations
    - Where are you from?
    - How would you describe climate change to the general public?

Awareness attitudes

2. What are the priority areas for improving knowledge and awareness of Pacific Aucklanders in regard to climate change?
3. How can we improve the understanding and awareness of climate change for Pacific Aucklanders?
4. Who is responsible for improving the understanding and awareness of climate change for Pacific Aucklanders?

Causes

5. What do you see as the main causes of climate change and hazards in Auckland?
6. Are there any differences in causes between Auckland and the Pacific region?

Knowledge sources

7. How do you know what you know about climate change?
8. What information sources do you trust the most (about climate change)?

Impacts

9. What impacts are you worried or concerned about the most?
10. What climate actions could be taken to address short-term, mid and long-term impacts?

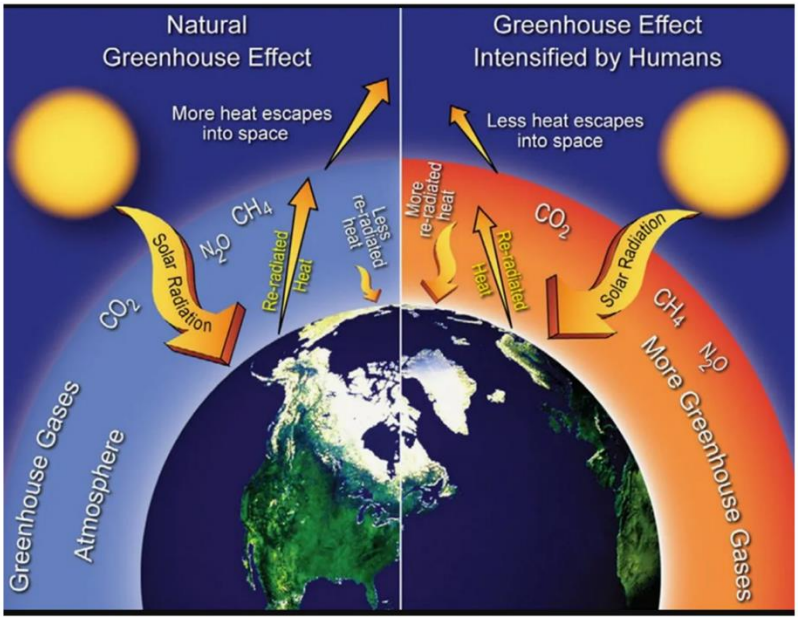
Resilience

11. What climate action have you seen elsewhere that would help the resilience of Pacific Aucklanders to climate change?
12. What strategies would you implement to improve and enhance climate resilience?
13. Are there any Pacific practices that we can harness to protect us from climate change impacts?

Anything else?

14. Is there anything we haven't covered that you would like to discuss? Are there any other comments you would like to make?

Appendix 3: Focus group educational slide



Weather is **short-term** atmospheric conditions **at a specific time and place**, e.g. raining today and sunny tomorrow so what are you wearing today.

The climate is a **long-term** pattern of weather **over a 30-year period**, e.g. what are all the types of clothes you have in your wardrobe?

Climate change refers to the **warming of our planet** as a result of **human actions and behaviours**, e.g. deforestation, greenhouse gases and carbon dioxide from driving cars and air travel, burning fossil fuels like coal and oil.

Appendix 4: Recruitment documents

Original poster

Updated poster