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Climate Change, Voluntary Immobility, and Place-Belongingness: Insights from Togoru, Fiji

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Abstract: Many low-lying communities around the world are increasingly experiencing coastal hazard risks. As such, climate-related relocation has received significant global attention as an adaptation response. However, emerging cases of populations resisting relocation in preference for remaining in place are emerging. This paper provides an account of residents of Togoru, a low-lying coastal settlement on Viti Levu Island, Fiji. Despite facing significant coastal impacts in the form of coastal erosion, tidal inundation, and saltwater intrusion, Togoru residents are opposing plans for relocation; instead opting for in-situ adaptation. We conceptualize place-belongingness to a land and people—through personal, historic and ancestral, relational, cultural, economic, and legal connections—as critical to adaptation and mobility decision-making. We argue that for adaptation strategies to be successful and sustainable, they must acknowledge the values, perspectives, and preferences of local people and account for the tangible and intangible connections to a place.

Keywords: adaptation; community; intangible; managed retreat; planned relocation

Citation: Yee, M.; Piggott-McKellar, A.E.; McMichael, C.; McNamara, K.E. Climate Change, Voluntary Immobility, and Place-Belongingness: Insights from Togoru, Fiji. *Climate* **2022**, *10*, 46. https://doi.org/10.3390/cli10030046

Academic Editor: Chris Swanston

Received: 11 February 2022
Accepted: 17 March 2022
Published: 20 March 2022

1. Introduction

Pacific Islanders understand that the physical forms of their island homes are malleable and have been shaped by diverse environmental factors both in the past and present [1]. Yet in recent years—through the science, discourse, and experience of climate change—Pacific Island people have come to expect an uncertain future as they deal with increasing environmental risks [2]. Despite accounting for only 0.03 percent of global greenhouse gas emissions, the impacts of climate change—for example, rising sea levels—will be particularly adverse for the physical and socio-economic aspects of Pacific Island countries [3,4]. Pacific Islanders who live on lands that are deemed vulnerable to the consequences of climate change are aware that these impacts pose a threat to their land and people [3].

Responses to climate change involve both mitigation and adaptation. The Intergovernmental Panel on Climate Change (IPCC) considers mitigation to be "an anthropogenic intervention to reduce the sources or enhance the sinks of greenhouse gases (GHG)" [5]. There is global action to mitigate GHG through low carbon action plans and strategies [6]. Adaptation is an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects [5]. Under the United Nations Framework Convention on Climate Change (UNFCCC), adaptation has gained importance over the past few decades owing to the recognition that climate change impacts already are and will continue to be experienced [7]. In the Pacific Islands, adaptation initiatives commonly include coastal zone management, climate-resilient food production and food security, and climate-proofing infrastructures such as coastal roads and harbors, water resources management, and community retreat and relocation [8]. Yet some climate adaptation initiatives across the Pacific

Islands have not been effective or sustainable due to limitations with finance and resourcing, project maintenance, and management expertise [1]. Further, social dynamics, power relations, knowledge hierarchies, and disruptions to traditional norms at the community level have been considered barriers to project success in the Pacific Islands [9].

For adaptation to be successful and sustainable it should be a collective action led by communities, determined by their own needs and values rather than by external agencies whether it be the government, non-governmental organizations (NGOs), or donor organizations [10–12]. Numerous Pacific studies have underscored the importance of better integrating local and Indigenous knowledge into climate adaptation and development projects [13–15]. Adaptation research and practice must refocus on local priorities, insights, and social dynamics, to achieve more future-proofed communities [16–19].

Relocation (also referred to as retreat) in response to climate change impacts (namely coastal hazards) is identified as one of four adaptation strategies alongside accommodation, protection, and ecosystem-based adaptation [20,21]. It is often viewed as a 'last resort adaptation' [22]. There are existing and emerging examples where relocation has been implemented to assist households and communities to adapt to climate-related impacts. In Alaska, several Indigenous communities have initiated relocation processes with government assistance in response to erosion and storm surges, driven by sea level rise (SLR) and melting permafrost [23,24]. There are plans to relocate residents of Taro Island, the provincial capital of Choiseul Province in the Solomon Islands with a population of 900 people; relocation planning has been underway for more than 20 years [25]. Throughout Fiji, upwards of eight communities have relocated either in full or in part, largely with external assistance from the national government and/or other parties, in response to coastal hazard risks [26,27].

Yet in the face of increased climate-related pressures, there are examples emerging of communities resisting relocation plans and choosing to remain in places of belonging; such preferences for immobility must be accounted for in relocation policy and planning [28,29]. In Bogota, Colombia, despite avalanches that have resulted in the loss of lives and recognition by many residents that current sites are not habitable, people remain and resist a government resettlement plan [30]. After a government relocation plan was implemented in response to flood risks in the village of Etsha 13 in the Okavango delta of Botswana, many households returned to their previous location [31]. In the Philippines, a government relocation plan to relocate communities from outer islands to the mainland has largely failed, as residents implement various local adaptations that have allowed them to remain in place [32]. In highland Peru, residents report that climate-related risks—temperature extremes, excessive precipitation, and abrupt changes in weather, glacial retreat, and drought—adversely affect their health and livelihoods, yet people choose to remain due to place attachment, resource barriers, and lack of mobility options [33]. While such examples document cases of voluntary immobility, there is value in further in-depth qualitative critical analysis of why populations choose to remain [34,35].

Here we contribute to the growing literature on voluntary immobility in places of climatic and environmental risk. We present a case study of the Togoru settlement in Fiji, a low-lying community that is facing severe pressures from coastal change and yet is choosing to remain. We draw on the concept of place-belongingness: "a feeling of affiliation with a place, a social bond where people feel as though they are connected and hold membership with an environment" to examine why populations continue to live in places where they experience difficult and worsening environmental conditions ([36], p. 61). We view place-belongingness as a product of auto-biographical, ancestral and historic, relational, cultural, economic, and legal connections to place. We argue that the inclusion of place-belongingness helps elucidate why populations may choose to resist proposed relocation plans, despite facing increasing climate and non-climate related exposures.

It is important to note that experiences and responses to environmental and climatic change vary between villages in Fiji, let alone across countries and regions. As such, the in-depth focus on one coastal village limits the generalizability of the findings for Fiji,

other small island developing states, and other global sites of climatic and environmental risk. In addition, this case study is unique as it involves a non-iTaukei (non-Indigenous) community—yet like iTaukei (Indigenous) communities, they also have very close links to the land that they inhabit, through ancestral and cultural connections. Despite being a single case study, this does not preclude the possibility of relevant insights derived from place-based, context-specific research into the broader conditions that increase or hinder adaptive capacity [37]. Indeed, context-specific case studies are needed to highlight the role of culture, gender, mobility, and other factors in adaptation to climate change (cf. [38]).

The rest of this paper is as follows: Section 2 outlines the concept of place-belongingness as a framework in which to understand the decisions to remain in place in the face of climate change risks. Section 3 presents an overview of the research site and methods. Section 4 analyses key findings, with a focus on Togoru residents' accounts of coastal hazard risks and related impacts on people's lives and livelihoods and the in-situ adaptations that residents implement in response to these impacts. This section further highlights the role that place-belongingness plays in decisions amongst Togoru residents to remain in place. The discussion and conclusions Sections 5 and 6 then highlight that climate adaptation must account for the role of place-belongingness. Appreciating the bonds that people cherish and value can help ensure that climate adaptation approaches are effective in the long term. Our findings add to the growing body of knowledge about the links between place attachment/belonging and human mobility in a warming world.

2. Place Belongingness and Climate Change

Climate change is a global phenomenon, yet its impacts are experienced in the local places that people live, work, and belong [39,40]. 'Sense of place' and related concepts such as place attachment and place identity have become important to understand the local impacts of a changing climate [41–44]. They are increasingly central to understanding the local experiences of climatic and environmental risks, climate change adaptation, and the limits of adaptation [39,45,46].

Attachment to place refers broadly to the physical and social bonds people develop with places [47]. Studies of climate-related mobility indicate that people and populations with a strong attachment to place resist movement away from sites of risk [48,49] and even return to places of climatic and environmental risk [29,50]. Adams [33] identifies that place attachment can create reluctance to leave places of environmental vulnerability because people feel safe, have established livelihoods and social networks, and have deep obligations to care for family and friends. More broadly, people with strong place attachment are often resistant to transformative forms of adaptation [51,52] and can perceive transformational adaptations as unfair or inadequate owing to the loss of important place-based connections [43]. Notably, studies of place attachment focus disproportionately on the social dimensions of place (social relationships and identities) as opposed to the spatial dimensions [47,53].

Place belongingness, however, provides a framework for considering more broadly the connections that people have toward a place in a warming world. The literature on place belonging, and what it means to belong to a place (or to be excluded), is diverse [54]. Theorists such as Antonsich [55], Yuval-Davis [56,57], and Fenster [58] have unpacked the multiple and often contradictory meanings of what it is to belong. An important distinction is made between belonging and the politics of belonging. Antonsich ([55] (p. 644)) for example, in their comprehensive review of literature on belonging, suggests that belonging may range from a "personal, intimate, feeling of being 'at home' in a place" (place-belongingness) to a "discursive resource which constructs, claims, justifies, or resists forms of socio-spatial inclusion/exclusion" (politics of belonging). Yuval-Davis [57] similarly distinguishes belonging as an emotional attachment and feeling of being "at home", from a politics of belonging bound up with the construction of collectivities with very specific boundaries. Fenster [58] similarly distinguishes personal place attachment, a sense of belonging and everyday practices of belonging, from more public-oriented formal structures. Certainly,

for many (see [59,60]), there is a distinction between the more personal, affective, and intimate dimensions of belonging (place belongingness) and the structured, public, and political aspects of belonging (politics of belonging).

Belonging builds, and builds on, a network of relationships between people and their environments [61]. It resonates in people's lives in their practices of knowing, being, and making sense of the world. It is 'everyday theory' with everyday resonance [62]. In the most extreme cases, people could be willing to sacrifice their lives and the lives of others to sustain their place-based identities and the places to which they belong [57]. At a more quotidian level, belonging is about day-to-day activities, encounters (social and human-environment), and daily practices through which people produce and reproduce meaning, values, and connections to place. As such, belonging is a concept of fundamental importance to people's lives. Belonging—whether it is legally, morally, or socially recognized (or not)—has the power to change lives [62].

The impacts of climate change are disrupting and will continue to disrupt, peoples' connections and belongings to places in varied ways [63,64]. For example, amongst female Indigenous elders ('Aunties') from Erub Island in the Torres Strait in Australia where coastal impacts, namely strong winds and high tide events are being experienced, residents speak of feelings of sadness, fear, and distress as well as a deteriorating sense of belonging to and familiarity with their environment [65]. In a study of rural Australian communities in areas vulnerable to SLR, a sense of belonging was shown to be a key indicator for some people in relocation decision-making (i.e., those with a strong sense of place-belongingness were less likely to consider relocation as a viable adaptation pathway) [66]. Additionally, among Indigenous populations in Alaska and Kiribati, climate change impacts are understood to threaten connections to country and place belongingness [67]. It is critical to recognize the underlying value attached to local social networks, natural resources, and ecosystems that foster a sense of belonging to a place [46,68].

Despite these examples, few studies have examined in-depth the role of place-belongingness in climate adaptation, including for relocation decision-making. Here we draw and build on the analytical framework of place-belongingness, as de-fined by Antonsich [55], to understand how place belongingness interacts with relocation decision-making (see Figure 1). Antonsich [55] highlights five domains that generate place-belongingness: auto-biographical, relational, cultural, economic, and legal. Autobiographical factors relate to subjective place-based experiences and memories of an individual (see [69]). Relational factors refer to social connections to others in a place that enrich the life of an individual and vary from emotionally dense relations with friends and family members [70] to "weak ties" formed through occasional interactions with people in public spaces [71]. Cultural factors involve language, traditions, habits, rituals, and shared identities; they evoke a sense of community and the feeling of belonging amongst people who not only understand what you say but also what you mean [72]. Economic factors refer to economic participation and livelihoods that create stable material conditions for people and households through food provision, work, and income [70]. Legal factors refer to citizenship and security of spatial rights, including land ownership and land security.

Given the specific context of this study (a rural Pacific Island community), we have adapted this framework and included an additional domain that we posit plays an important role in place-belongingness: ancestral and historic dimensions [55]. Ancestral and historic factors include those that attach people to a place through connections and obligations that are sustained over long timeframes. In Pacific cultures, Pacific people are understood as being born into a multidimensional flow of life and relationships that are not created but continued over time [73]. With reference to Fiji, Nabobo-Baba [74] refers to history as central to people's sense of shared identity and belonging in their world and wider cosmos, or vanua. Vanua represents people's relationship with their land, soil, ancestors, and country [75]. As ancestors are buried in the soil and therefore become part of the land, Fijian culture stresses that land gives present-day people a sense of connection to their ancestral and historic roots [76]. As such, people's histories, existing connections to place, and shaped probable futures are then used to construct place-belongingness across

time. Even in the face of coastal changes that are threatening habitability in place, ancestral and historical ties can, and will, give a compelling reason to remain [26].

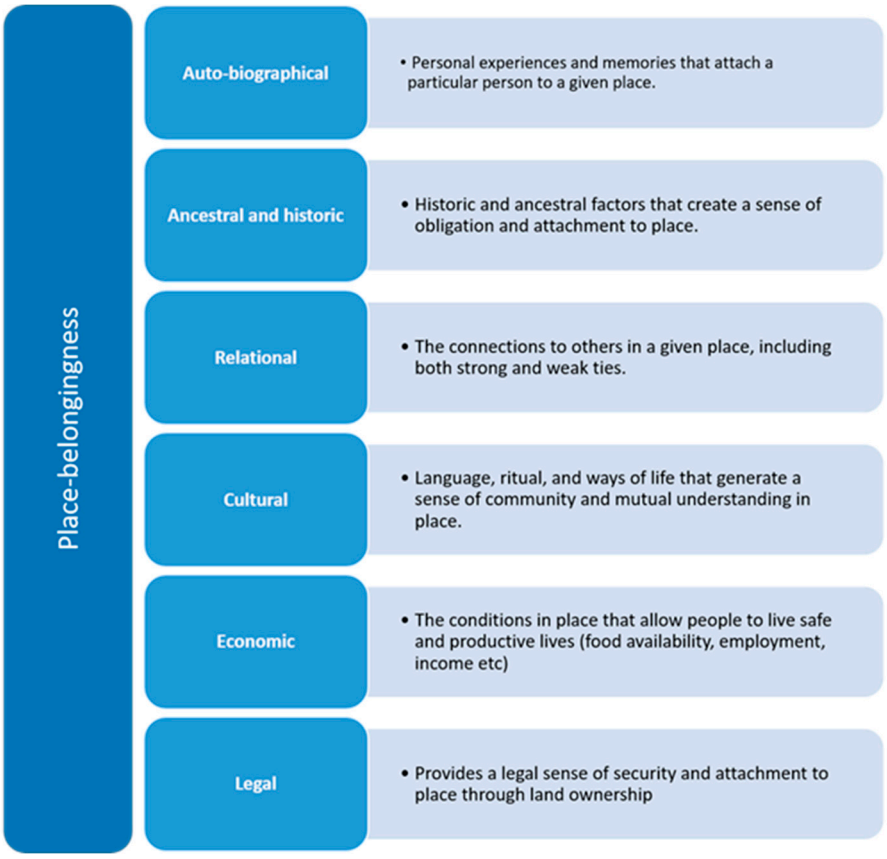

Figure 1. Conceptual framework detailing the various components of place-belongingness as autobiographical, ancestral and historical, relational, cultural, economic, and legal connections to a place (Adapted from Antonsich, 2010).

Understanding the dimensions of place-belongingness can aid in the development of local adaptation policies and practices that appreciate the connections that people value.

3. Research Site and Methods

3.1. Research Site

Togoru is located on the southern coast of Viti Levu, the largest island of Fiji (Figure 2). Togoru is a 10-min drive from the main Suva-Nadi highway and a 45-min drive from Suva, Fiji's capital city. Although located within the Serua province boundary, because of their links to the Tui Namosi (paramount chief of Namosi), the inhabitants are closely associated with Namosi provincial engagements and activities (see Section 4.1 for more detail). Togoru is a low-lying coastal settlement and has in recent years been identified as a site of climate risk, namely coastal erosion associated with storm surges and SLR. It is particularly vulnerable to SLR because it is in the flat floodplain of the Navua River, with an extensive mudflat offshore. One of Togoru's residents, Anne Dunn, was a guest speaker as a youth climate ambassador at the climate summit COP23 in Bonn (Germany), presided by Fiji. As she explained, climate change "affects our identity. We are islanders, our unique way of living is being threatened" (cited in [77]).

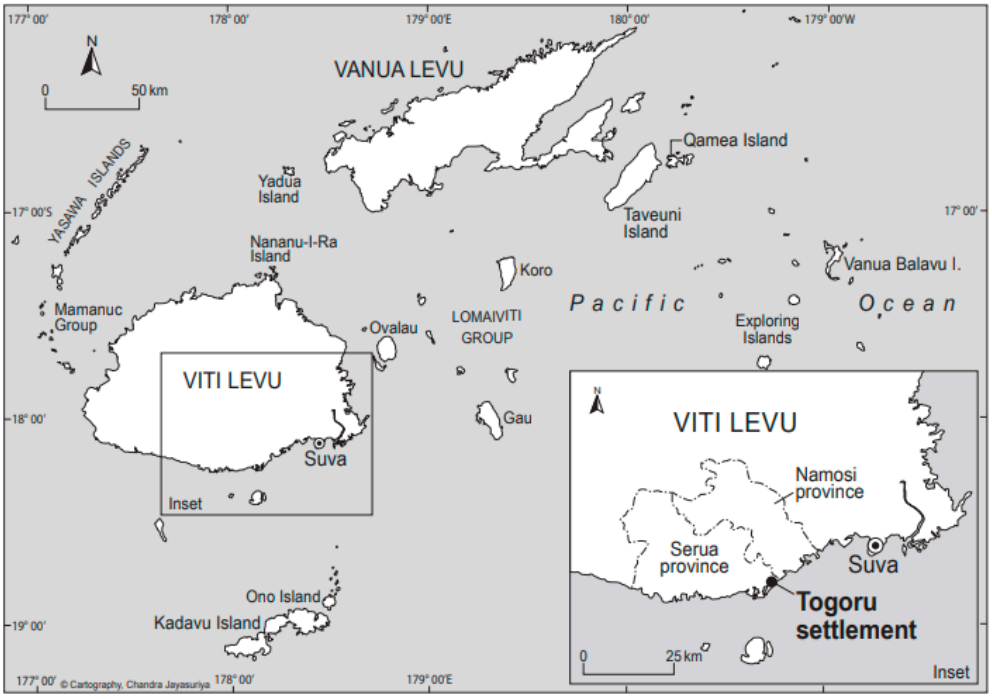

Figure 2. Map of Fiji showing the location of Togoru (prepared by Chandra Jayasuriya).

3.2. Research Design, Data Collection, and Analysis

The case study was undertaken as part of a three-year qualitative research project on the experiences of climate change in low-lying coastal areas of Fiji and the Maldives. The lead author, an Indigenous Fijian researcher, collected primary qualitative data in March and April 2021. This settlement was chosen after an examination of local media releases relating to sites of coastal risk, the lead researcher's local experience, and a conversation with the Fiji Ministry of iTaukei Affairs. A reconnaissance visit was carried out to ensure that it was suitable. The settlement's oldest resident aided the researcher by providing an introduction to the settlement and raising awareness of the research among Togoru residents. This gatekeeper also provided insights that informed the focus of data collection.

Many researchers in the Pacific now aim to use appropriate and de-colonising research methods, rather than relying on standard Western methods of research [74,78–80]. In this case study, a mixed-methods approach was used to obtain insight into the residents' experiences of climatic and environmental change, belonging to a place, and mobility decision-making. Qualitative data were collected using semi-structured interviews, Talanoa, and participant observation. These strategies are culturally sensitive and align with local sociocultural norms in traditional communities in Fiji.

Eight semi-structured interviews were conducted: six Togoru households (with two people interviewed per household) and two local government officials based in Navua town. In total, 14 people were interviewed and participants ranged from 27 to 68 years old. Interviews took place at people's homes, at the beach, and in the gardens. In-depth insights were gained through these face-to-face interviews [81,82] and enabled culturally appropriate forms of verbal communication and storytelling. The household group interviews used 'Talanoa' methodologies, a concept prevalent in Pacific Island societies to describe a formal or casual dialogue or exchange of ideas that takes place face-to-face [80]. This eliminates the barrier between the researcher and participant and tries to foster mutual respect, trust, and understanding [83]. Talanoa dialogue spirit was disseminated to the World by Fiji during the Fijian UNFCCC COP23 and the establishment of the well-known "Talanoa dialogue platform" in 2018 [84]. Talanoa interviews with older residents enabled the mapping of social memory of environmental change and adaptations over time [85].

An interview guide was used with questions across five different themes: demographic characteristics of household members (such as the number of people, age, gender, religion, place of birth); values (e.g., what is most important in your life?); experiences of change over time (economic, social, and environmental); current and planned adaptation strategies (such as adaptations implemented, and the success/failures of these); and mobility (such as experiences of mobility and views on climate-related mobility). Each interview lasted approximately 1 to 1.5 h. Interviews were conducted in both English and iTaukei. Interviews were recorded on a digital recorder and transcribed. The interview transcripts were then uploaded into NVivo and analyzed thematically using inductive coding by two of the authors.

Transect walks with community members explored the perceived impacts of climatic and environmental changes on their land and associated adaptation strategies. They also gave valuable observational context to discussions and opportunities for informal conversation (such as with women doing regular duties such as crafting brooms out of coconut leaves, child-rearing, gardening, and sweeping the yard). This is important in Fiji given women are generally sidelined from decision-making processes and are not always given the opportunity to express their views [86].

The project received human research ethics clearance through The University of Melbourne (Approval ID: 1851729.1). The Government of Fiji granted a research permit and the local government and the community leader of Togoru gave their support for the research.

The data collection and analysis were led by the first author. Integrating Indigenous research methods and knowledge can give communities a stronger stake in knowledge generation, including in climate risk and adaptation [74,80]. This can provide significant insights into community values and challenges and support improved policy, practice, and investments for climate-affected communities.

4. Results

4.1. Background of Togoru

The origin story of the settlement of Togoru is well-known to residents. According to one resident, their forefather James Dunn arrived in Fiji sometime between the years 1813–1816. He came in a yacht and saw the beach at Togoru was to his liking. However, he was shipwrecked and could not come all the way in. He ventured ashore in a small boat. He was seen by the local Indigenous people of Namosi province who then told the Tui Namosi (paramount chief of Namosi, one of the fourteen provinces in Fiji) they had seen a 'red neck' guy. So, the Tui Namosi came to meet him, and they communicated through sign language. James Dunn became very good friends with the Tui Namosi and eventually became one of his bodyguards. The Tui Namosi was so impressed with James Dunn's prowess in war that he offered him many wives and land of his choosing. Dunn eventually married a woman from Namelimeli village and asked for land on the coast (of about 10 acres), which is now the present site of Togoru. This land was gifted to him by the Tui Namosi as a token of appreciation and goodwill for his services. This place was originally called Muaniucuna because it was shaped like a person's nose. When the settlement was registered by government officials, the name was changed to Togoru. So, according to local history, Togoru has been a settlement for approximately 200 years.

According to the 2017 Census [87], Togoru has a population of 24 people (13 males and 11 females). At the time of fieldwork, however, there were seven households with a total of 20 residents. Many residents have been, and/or remain, highly mobile having moved both within and beyond Fiji's national borders (see Table 1). Some residents had left Togoru to settle elsewhere, a few remained, some had worked for years in other parts of Fiji and returned, and some were living and working elsewhere but planned to return. Of the seven households, six were currently occupied with one vacant due to migration overseas.

Table 1. Summary of household mobility characteristics in Togoru.

Household (HH)	No. of HH Members	Mobility Characteristics
#1	2	Household members had worked around Fiji. Following their retirement in 2014, they returned to Togoru. A household member works in Suva five days a week and returns to Togoru every weekend.
#2	2	Household members work in western Fiji and travel back and forth to Togoru. They plan to return permanently in the near future.
#3	4	Never left Togoru.
#4	5	Left for Suva city to work and returned to Togoru in 2017. A member of the household works in Suva four days a week and returns to Togoru for the rest of the week.
#5	4	Left for Labasa town to work and returned to Togoru in 2013. In 2019 moved back to Labasa for one year and returned in 2020.
#6	3	Relocated to Navua town in 2015 and plans to return to Togoru in 2022.
#7	2	Not interviewed as they have migrated to Australia but regularly visit Togoru.

Today, the residents of Togoru are predominantly fishers who earn their income from the sea. All residents are Christian. The women make brooms made from coconut leaves and sell these together with coconuts, bananas, fish, and breadfruit along the Togoru road and at the market in Navua town. In addition, the households receive remittances from family and friends that live within Fiji and overseas. A few residents earn income by working outside of Togoru (see Table 1). Indeed, residents of Togoru, as with many Pacific communities, are accustomed to mobility—often for work—with some residents being away during the week and returning on their days off, and others moving away for more significant periods of time, whether months, years, or even decades.

The settlement experiences a range of challenges including poor access to transport and limited access to electricity and water. There are five children who live in Togoru and they attend nearby schools: three in primary school and two in high school. To get to school, children wake very early as they are picked up each day at 6 a.m. and dropped home around 4:30 p.m. by a public service van. Outside of this school bus, there is no bus that services Togoru; residents use the taxi service which can be costly. As one resident explained: "There is no bus that comes here. If we have to go to town or elsewhere, we have to hire a taxi. When the taxi comes here, they charge $3.00 for coming here, then $6.00 for taking us to town. Before the Navua hospital was in town, now it has been relocated to the Namelimeli area {6 km from Togoru}. That is an extra charge so we just taxi to town then catch the hospital bus" (HH #3, participant #1).

Residents previously used wells to access water, however, due to saltwater intrusion, the water is no longer fit for human consumption. Now residents use water tanks provided by the government; the Water Authority of Fiji has not extended piped water services to the settlement. Of the seven houses in Togoru, four are made of concrete and three of corrugated iron. Each household has a toilet, either the flush or water seal variety. Electricity is supplied by means of solar power, which is self-purchased, and a few houses have generators. The residents indicated that they had filled out forms for the supply of solar power from the government, yet this has not been forthcoming: "The piped water and electric posts cannot reach us here. According to the energy company in Fiji, our soil is too sandy for electricity posts to be inserted and hence {provide} power for us. They said if the posts fall into the water all the marine life will be affected because {of} its live wires.

The best option is solar power. We have filled forms {but} we {are} still awaiting" (HH #3, participant #1).

4.2. Experiences of Coastal Change

Among residents of Togoru, experiences of coastal change are understood through the lens of scientific assessment and evidence, observation of local coastal changes, and personal experiences of coastal changes. There is no consistent scientific monitoring on coastal change and rates of erosion in Fiji and some coastal changes are attributable not only to climate change impacts, such as SLR and increased frequency and intensity of storm surges, but also wider development and environmental impacts and geomorphological processes. However, residents of Togoru are broadly familiar with the scientific assessments of climate change impacts for Fiji and the Pacific Islands. Some are directly involved in local scientific monitoring of coastal change. One resident, for example, described his role in supporting the scientific monitoring of coastal erosion in Togoru: "One lady came from Germany and we did a survey together. She pegged the height of the high tide level, and I was in charge of looking after the peg {so} that no one disturbs it. One year later she came back {and} she found the sea had moved 1.3 m inland. So, every year around that much is eroded" (HH #3, participant #1).

Residents also independently observe coastal change—including erosion, flooding from more frequent high tide events, saltwater intrusion, and altered fish stocks—which they attribute to climate change (see Figure 3a,b). Exposed roots of coastal trees, the encroaching high tide lines, and the submerged remains of the village graveyard where ancestors are buried are understood to act as visible markers of the local impacts of coastal erosion and SLR (see Figure 3).

Residents describe their personal experiences of coastal change and risk: loss of land in the settlement due to erosion, increasing frequency of high tides, waves reaching the doorsteps of homes, and seawater flooding the road during spring tides: "You know the Togoru land has really reduced in size from before. Over time the seawater has really eroded the land away . . . It is still continuing to take away our land little by little every day. We have lost a big chunk of our land to the sea" (HH #6, participant #1); "Before 10 years ago roughly, we only had two spring/king tides. One in Diwali, one in Easter, one in November, and one in April. For Fiji, that is our cyclone season. But as the years went by, I noticed that these tides were coming frequently like every three weeks. Very fast and often. Maybe every month there is one or two spring tides" (HH #3, participant #1); "And when there is spring tide, the two front houses nearest to the beach (about 25 m) the waves come up to their doorstep" (HH #6, participant #1).

These coastal changes have had impacts on lives and livelihoods. All households grow some food crops for subsistence and sale at local markets. Saltwater intrusion has resulted in these crops being harder to grow, with increasingly poor quality and quantity of crops: "The thing is really hurting me because the saltwater is really infiltrated the land and it is a big concern. Because when I came here, me and {my} wife used to plant cassava (*Manihot esculenta*), and everything used to just bloom. But I plant now for one year now and the thing is like a sasa (coconut) stick" (HH #2, participant #1). Residents have also noted changes in fish stocks which they attribute to warming oceanic temperatures. They explained that in earlier times, fish were plentiful and easy to catch, providing an important source of everyday food. However, there are now fewer fish: "In the past, you just fish on the beach you catch fish. You cook cassava in the pot you go fish, by the time you return with the fish the cassava is cooked, and just put the fish on top of the cooked cassava to steam it. But now, no, it takes one whole day to catch one or two fish" (HH #3, participant #1).

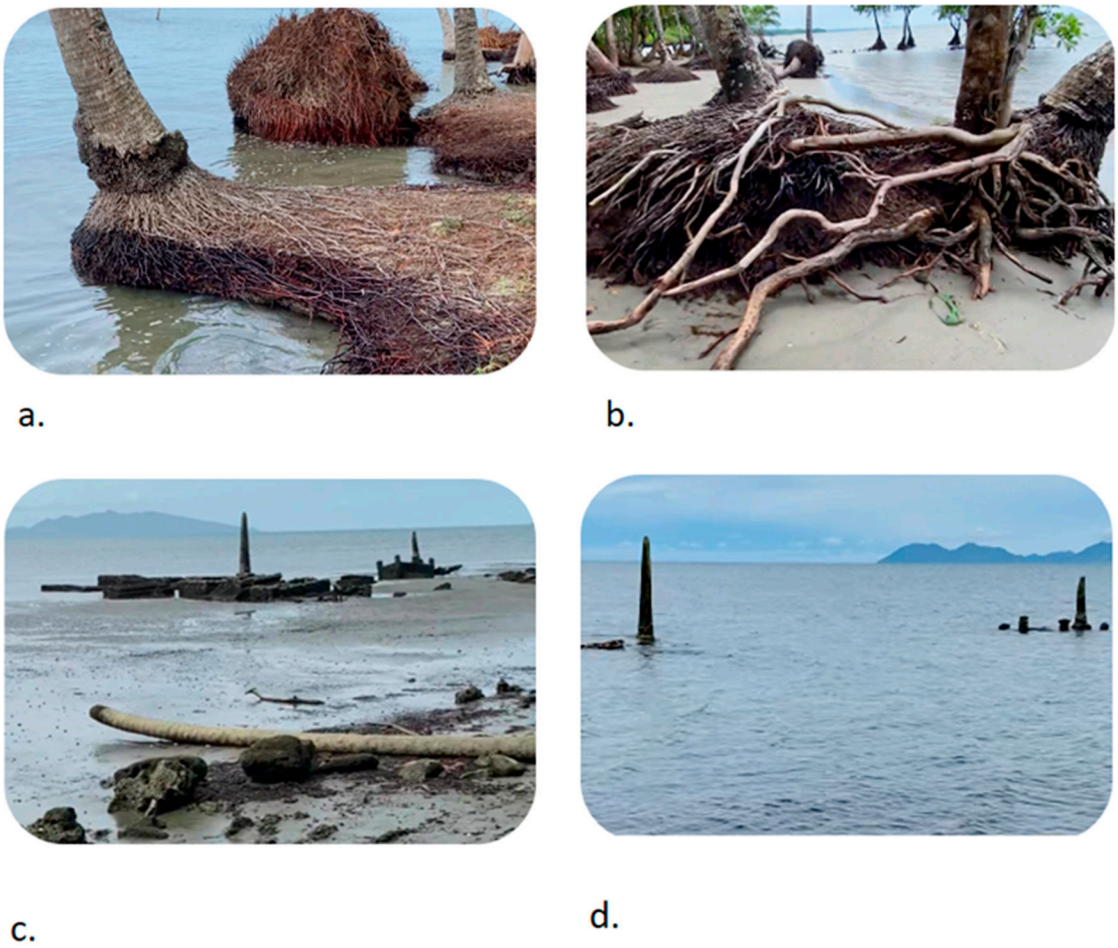

Figure 3. Images of coastal hazards. (**a**) Coastal erosion; (**b**) Exposed roots; (**c**) Graveyard at low tide; and (**d**) Submerged graveyard at high tide (Photo Credit: Yee, 2021).

One of the most poignant impacts of coastal erosion and flooding is the submergence of the graveyard where residents' ancestors are buried, including James Dunn who was the original resident of Togoru settlement (see Figure 3c,d). Residents explained that the original site of Togoru, and the graveyard, were in an area that is now underwater. One resident explained, "due to rise in sea level, it has taken away our land, our home, it has taken away our ancestor's grave" (HH #6, participant #1). Residents attribute this inundation to SLR and indicate that the graveyard's inundation is a source of significant sadness: "Because of the rise in sea level, a new gravesite has been established. Every time we look out and see the graveyard underwater and just the tip of its headstone above the water, {it} brings tears to our eyes" (HH #3, participant #1).

4.3. Adapting in Place

A range of in-situ adaptations to coastal risks are being implemented in Togoru (see Figure 4). These adaptations are implemented by households (e.g., investing in housing infrastructure and using salt-tolerant farming techniques), and the community (e.g., building and repairing a seawall, restoring the coastal ecosystem through tree planting, and re-using tires as a retaining wall). There are also plans for the government to build a seawall; government surveyors have marked out a possible location (see Table 2). These in-situ adaptations allow residents to remain in place.

Figure 4. Images of adapting in place: (**a**) Innovative salt-tolerant farming; (**b**) Climate proofing infrastructure; (**c**) Coconut trees planted for coastal protection; and (**d**) Hard defenses—markings of a proposed sea wall by the Government of Fiji in 2020. Photo credit (Yee, 2021).

4.4. Relocation

Togoru has a history of relocation which began almost 50 years ago. As described by one resident, Togoru moved about 100 m inland during the 1970s when seawater began to flood the settlement: "100 m out in the sea {was the old settlement} This place was dry and used for farming. My big brother, their house used to be there. Over time the tides began to reap the land and so they relocated to this present site" (HH #2, participant #1). Residents explained that the village was initially located beyond the graveyard: "The village was even further behind the graveyard. The house where I was born is gone" (HH #1, participant #1). So, residents of Togoru are familiar with the process of retreat in response to coastal change. Yet, contemporary government proposals to relocate inland have been met with resistance: "Over our dead bodies we will relocate" (HH #5, participant #1).

On several occasions, government representatives have met with residents to propose relocation. In 2010, Togoru residents were encouraged to move by the Provincial Office in Navua. People who had tin houses were offered FJD$22,000 to relocate, and those with cement block houses were offered FJD$28,000: "It was a good offer but if they provided the land and we buy then okay, but in this case, we have to look for the land" (HH #3, participant #1). Another offer was put forward to move half of the settlement of Togoru to Calia (about 5 km from Togoru) and half to Wainadoi (about 18 km from Togoru). However, residents were concerned that the relocation sites belonged to others and there would be no land security. In 2017, government officials again proposed relocation, but residents did not agree and instead requested that the government assist with seawall construction. One resident explained the preference to build a seawall and remain, rather than relocate: "for us, deeply, we do not want to relocate; we just need the government to help us with regards to the seawall construction" (HH #6, participant #1). According to the Ministry of

Waterways, construction of a seawall will entail expensive reclamation works to salvage the submerged graveyard: "This will cost a lot of money which the inhabitants of Togoru need to think about in making relocation decisions" (GoF, participant #1). Nonetheless, this small coastal community of seven households is not ready to give up and move: " . . . if the world comes to an end, I will never leave" (HH #2, participant #2).

Table 2. Adaptation to coastal hazards at the household, community, and government level.

Levels	Adaptation Strategies	Representative Quotes
Household	Investing in and adapting infrastructure	"This old house we have is 48 years old. You can see the cracks on the wall and part of it is sinking also due to strong winds and saltwater intrusion. So, we thought of building a new one but on higher posts to protect us from the flooded waters caused by heavy rain and or from high tides" (HH #3, participant #1).
		"We plan to move back to Togoru next year, 2022, and renovate and strengthen the house to be able to stand impacts of climate" (HH #6, participant #1).
	Innovative farming methods	"Farming, we cannot do that because of the seawater. But my husband and I go on to YouTube to research ways to go about making small home gardens in salty areas" (HH #4, participant #1).
Community	Construction of protective barriers	"The first sea wall I can recall was built in 1972 . . . It was built by the community members . . . the District Officer, they supported us by providing the cement and wheelbarrow, we supply the coral, and the community provided the labor" (HH #3, participant #1).
		"One time they had brought 100 tires to save their coastline and when TC Winston came in 2016, most of the tires became washed onto the mainland into their compound" (GoF, participant #2).
	Restoring and enhancing natural ecosystems	"But for the seaside, why we have to plant more trees. What we are doing now is planting coconut trees all around. If we do not do that . . . the heat of the sun on our soil, which is sandy, is overheated and heavy rain and waves washing onto the sand" (HH #3, participant #1).
Government	Proposed seawall	"We decided a sea wall was the way forward and not relocation. It will be built of cement and fully funded by the Government of Fiji" (HH #3, participant #1).
		"All we want is the sea wall to be done up and it's been a long time we have been asking. Late last year (2020) around November, surveyors from the Government came to Togoru to peg the markings for the new sea wall" (HH #4, participant #1).

4.5. Place-Belongingness in Togoru

Residents of Togoru express strong place-belongingness: "This land is very important and close to our heart. Leaving the land is not an option" (HH #6, participant #1). This section considers the five domains that generate place-belongingness (as outlined by [55]) as well as the additional domain of ancestral/historic belonging to a place that is central to Pacific lives, i.e., auto-biographical, ancestral and historic, relational, cultural, economic, and legal.

First, residents noted strong personal (auto-biographical) belonging to the settlement, particularly as they were 'born and bred' and have lived much, or all, of their lives in Togoru. As one resident noted: "the longer the time living in a place, the harder it is to leave" (HH #1, participant #1). Despite high levels of labor mobility, many residents have chosen to return and remain in Togoru: "I go here and there, I had so many opportunities to go abroad, go for good, but this place is second to heaven for me" (HH #2, participant #1); "I am here to put the anchor down; this is where we were brought up . . . and it's still in our system" (HH #2, participant #1).

Second, according to residents, extremely strong ancestral connections to Togoru have been established through their forefathers, as well as the unique and historic links to the settlement through the Tui Namosi who gifted the land to the first Mr. James Dunn. These ancestral connections remain prevalent and play a significant role in decisions to resist

relocation. Residents are reluctant to leave a place with ancestral connections, including the graveyard where their ancestors are buried: "Because our ancestors have lived here and they are still here in the grave, and we do not want to leave them behind. It is because of them we are here in Togoru. Because once we leave them there and relocate, we do not know what is going to happen to them" (HH #3, participant #1). Many residents spoke of their continuing obligation to remain on land gifted to their forefathers, thereby respecting the former Tui Namosi: "The current Tui Namosi told us during Togoru day that this is the Dunn land. We will not leave even though the impacts of climate change are right there at our doorstep. We never gave up until this day, we are still here now. This land was given with the good heart of the Chief" (HH #2, participant #1). Indeed, given this connection to the former Tui Namosi, Togoru's residents have sustained an ongoing relationship with the current Tui Namosi and turn to him for support and assistance.

Third, social relationships are an important component of place belongingness in Togoru, including networks within and between households, and everyday practices of sharing and collaboration. This is illustrated through the words of one Togoru resident: "Sharing and caring. That is one good thing here, living as a community. Whatever we have we share with each other" (HH #5, participant #1). Residents say they support and respect each other's farming, visit each other when they are sick, and regularly meet to discuss important issues such as 'our lives, climate change, relocation, our future' (HH #3, participant #1). 'Togoru day' is held each year, and residents, guests, and the Tui Namosi come together in celebration of their settlement. Indeed, residents hold a strong sense of community with other households in their settlement based on their shared history, ancestral ties, daily lives, and concerns. Some residents stated that a key reason they resist relocation, particularly relocation across different sites, is the fear that these social connections may be lost: "{they} told us some of us go to Calia and some to Wainadoi. I said 'No we don't want that'. I am talking only on behalf of the Dunn family. If you move us, move all the Dunn families in Togoru to one place" (HH #3, participant #1).

Fourth, residents speak of having a shared culture and identity that has been established over time and through their daily lives. They refer to a common way of life that unifies residents. Important cultural aspects of life in Togoru include local farming techniques that have been passed between generations: "my father taught us how to plant in Togoru, he taught my mom how to plant the flowers also" (HH #2, participant #1); fishing skills that have been developed and passed down by residents: "'Dre Lawa' is a fishing technique and skill practiced in the past and was passed down" (HH #3, participant #2); and the Namosi dialect as their shared language. Cultural practice is embedded in a place, through fishing, farming, everyday engagement with local land- and sea-scapes, and management of homes and livelihoods. Some residents compared their lives in the Togoru settlement with life in urban areas, saying that the relaxed culture and way of life in Togoru was preferable.

Fifth, the livelihoods (and economic stability) of households of Togoru are met and enhanced through income-generating and subsistence activities. Residents place a high value on being able to live off the land and fish from the ocean without the pressures of rent, bills, and other expenses. As one resident noted: "I love living here because everything is free. We don't need to pay electricity bills and water bills. And the food, we want to eat my husband and me we go fishing 'dre lawa' we catch fresh fish. If there is surplus, we sell and buy basic foodstuff like sugar, salt" (HH #3, participant #2). Residents strongly value these aspects of life and livelihoods in Togoru, as compared to the pressures of wage-based labor and daily life in other urban places: "When I am in Labasa I feel helpless. Whenever I need something, I would have to ask but here I can do it and get it myself. Here I make 'sasa' broom made from coconut leaves and sell {it} in the market. I also sell coconuts, breadfruit, fish, and even bananas. So far money earned from that is enough for me and my three children here" (HH #5, participant #1). Residents describe the sense of independence, sufficiency, freedom, relaxation, and peace as they can meet their needs through local resources: "No rent, no electricity bills, and no water bills. Peace of mind and very relaxing.

Because my mind is at peace, nothing much to worry about. We catch fish for the children's lunch" (HH #5, participant #1). Those who move away from Togoru for work, either for short or longer periods of time, still view Togoru as their 'home'. There, they maintain place-based connections and a sense of belonging [88].

Sixth, the Togoru settlement provides some security of land tenure. Per local accounts, the Dunn family have lived in Togoru for more than five generations—since the time that land was gifted to their forefathers by the traditional chief of the Province of Namosi. However, residents said there is now uncertainty over land ownership. While they have the title to the land: "We have the title of this land which reads it belongs to James Dunn and his descendants" (HH #3, participant #1), the settlement is located on freehold land and is not registered with the iTaukei Affairs Board. Residents have heard that their land may have been sold 'without the knowledge of the people in Togoru', such that people are confused as to who currently owns the land of Togoru settlement. They have heard that a 'white guy' has bought half of Togoru's land and they have no additional ancestral land to which they might relocate. Thus, residents are both reluctant to leave their settlement and risk losing their potentially precarious land rights, or to relocate to a new place where they do not have any ancestral land rights: "They told us about moving half the settlement to Calia and half to Wainadoi . . . I told them no . . . we don't know about that land they {are} relocating us to. It may belong to somebody else. Maybe when I die and those in my generation dies, like my brothers of similar age group, the landowners might chase my children and their children out. I heard one story where a group were relocated to Nadi and they got chased. After their elders and parents died the landowners chased them out" (HH #3, participant #1).

In sum, Togoru's residents express place belongingness that is experienced through multiple domains, including the auto-biographical, ancestral and historic, relational, cultural, economic, and legal connections. Togoru is a place they belong, a place they are reluctant to leave even as coastal risks emerge. Yet there is concern that Togoru is changing: "It's beautiful, very beautiful place. But the main thing is the sea level rise. One night I could not sleep because I could hear the waves breaking. It was so loud I thought the waves would wash over us" (HH #2, participant #2).

5. Discussion

This paper considers the role of place-belongingness in climate adaptation, specifically decision-making around in-situ adaptation and relocation in a context of slow-onset climatic and environmental threats. It builds on Antonsich's [55] analytical framework of place-belongingness and highlights the auto-biographical, relational, cultural, economic, legal, as well as ancestral and historic connections to land and people (Figure 1).

The Togoru settlement is highly exposed to coastal erosion and flooding, with consequences for people's lives and livelihoods. Residents of Togoru have previously retreated between 100 and 200 m inland in response to coastal changes, yet residents prefer to remain in their settlement, a place of belonging, rather than retreat to higher land beyond the boundaries of their settlement. Indeed, residents have explicitly resisted provincial government proposals to relocate away from their low-lying coastal settlement, including rejecting government offers of financial compensation and support for relocation.

Residents express a strong sense of belonging to the local ecosystems they depend on for food and livelihoods, the land they own, the place-based culture and everyday practices, and the people that belong there. In addition to the domains of place belongingness as identified by Antonsich [55], residents specifically highlight ancestral and historic dimensions of belonging to a place that is created and continued over time, contribute to their shared identity, and provide a compelling reason to adapt in place [73,74]. Thus, sociocultural, material, and ancestral connections to a place become an anchor for individual and communal identity, such that people can become part of something greater than themselves [89]. Relocation initiatives and policies must not only address the ecological, technical, economic,

and physical aspects but also account for place-based connections that inform relocation decision-making [63].

Various in-situ adaptations are being implemented in Togoru at both the household and community level, including climate-proofing houses, climate-resilient farming, coastal protection, and restoring and enhancing coastal eco-systems (see Table 2). Planning to construct a seawall by the national government has begun, with a possible location identified by government surveyors in 2020. Currently, these in-situ adaptations (and plans for adaptations) allow residents to remain in the Togoru settlement. Yet it is a challenge to identify and implement feasible, cost-effective, and sustainable in-situ adaptation. For example, investment in hard infrastructure (such as seawalls) can have maladaptive potential in rural coastal settings owing to the negative consequences on adjacent communities and natural ecosystems and the need for ongoing maintenance, which is often unavailable [90]. This raises important questions about the limits of adaptation—including biophysical, institutional, financial, social, and cultural limits to adaptation—in vulnerable locations where people prefer to remain in place rather than relocate.

Our findings contribute to the research momentum to understand the connections between place attachment/belonging and human mobility in a warming world [33,91–93]. For example, the USA's first federally funded, climate-related community resettlement is occurring with residents of Isle de Jean Charles in Louisiana. Most households are directly descended from Jean Marie Naquin, after whose father the island is named. Community members sought assurance from the national government that they could retain ownership of land and properties in the original location, for as long as the land remains, which allowed them to maintain important connections and a sense of belonging to the place [94]. Similarly, Vunidogoloa represents Fiji's first community-scale relocation which occurred in 2014 with support and funding from the government, donors, and external organizations as well as the use of local resources. Residents viewed the original low-lying coastal villages as a site of ancestral, intergenerational, and personal belonging. Following their move to higher ground, belonging to the place has been sustained with many residents returning to the old village site to fish, farm, or visit burial grounds [26]. In these examples, people seek to maintain belonging to a place following their movement away from sites of environmental change and risk.

Other studies have found, however, that attachments and belonging to a place provide a reason to limit mobility away from sites of climatic and environmental risk [48]. For example, research with the Rolwaling Sherpa of Nepal demonstrated that attachment to place and the desire for cultural continuity are shaping responses to environmental change, including the risk of glacier lake outburst flooding; community members express a need to remain in place to preserve ancestral land, maintain religious duties, and protect their culture [49]. And research in Tadlac, a flood-prone area of the Philippines, found that a sense of place both enables residents to adapt to flooding events and provides a strong reason to maintain their residency within Tadlac [95]. There is a need for more context-specific research to understand in-depth the link between place attachment/belonging and (im)mobility decisions in places of climate risk [45,91].

It is important to recognize that not all retreat and relocation in the Pacific Islands irrevocably disrupt belonging to a place; some iTaukei (Indigenous Fijian) villages and settlements are able to move within the boundaries of their customary land. These customary land rights have enabled the managed retreat and relocation of some communities in the Pacific islands, including several communities in Fiji, e.g., Vunidogoloa, Denimanu, Vunisavisavi, and Narikoso [96,97]. For example, residents of Narikoso—a small coastal village in Fiji of around 30 households that experiences significant erosion and coastal flooding—requested government support to repair and construct a seawall; this was deemed too costly by donor agencies and the government and ultimately seven households situated closest to the coastline were relocated to higher land [98,99]. These planned retreats and relocations have occurred within customary land that provides a cultural and spiritual home, close to the original settlement (between 500 m and 2 km), without the need to

negotiate access to land [26]. So, belonging to a place can be sustained where Indigenous people retreat and relocate within their customary land.

However, as with Togoru, many communities in Fiji and the Pacific Islands who face significant climatic and environmental risks are not customary landowners (e.g., non-Indigenous populations) or do not have suitable customary land to which they can relocate. A relevant historical example is that of the Gilbertese resettlement in the 1960s from the Phoenix Islands to Wagina Island in the Solomon Islands in response to drought and environmental degradation; the land allocated to the Gilbertese remains contested and their land ownership is not recognized under the Solomon Islands Law. The Gilbertese continue to feel insecure about their future [100]. In Toguru, residents are reluctant to relocate away from their settlement both because of the precarity of their existing land rights, as they reside on freehold land that is not registered with the iTaukei Affairs Board, and the lack of ancestral land rights in an alternative site. Navigating these issues of land rights, particularly for those without access to suitable customary land, will require complex consultation with the relevant stakeholders including persons, households, and communities being relocated, the provincial and national government, and landowners in the relocation site. However, both formal governance mechanisms and customary arrangements to secure land rights for relocating populations will have limits as increasing numbers of people move in a climate-affected world [101].

6. Conclusions and Future Directions

The global mean sea level is rising, and Pacific Island countries and territories are experiencing higher regional averages of SLR with low-lying settlements and atolls at particular risk [102]. Fieldwork in the Togoru settlement suggests high levels of exposure and susceptibility to climate-related impacts, including a perception that the impacts of SLR—i.e., coastal erosion, flooding, saltwater intrusion—have arrived in Togoru. Yet residents are reluctant to move away, due in part to their place-belongingness in Togoru settlement. The findings add to the body of literature that questions and contests the 'climate refugee' narrative.

Given the emerging environmental and climatic challenges facing the Togoru community, relocation might seem an appropriate strategy. However, relocation is viewed as a last resort by the community and is seen to disrupt their sense of belonging. As such, adaptation strategies that address the values, perspectives, and preferences of local people, and account for both tangible and intangible connections to place, are imperative. While many presume a high likelihood of climate-related migration across the Pacific—and examine legal protection mechanisms, policy, law, and international relations—it is crucial to underscore that many Pacific Islanders will not want to move from places of climate risk [103]. Preferences to remain are shaped by local contexts and values, including place-belongingness.

This paper brings to light the importance of place-belongingness for decision-making around adaptation and relocation. The customized place-belongingness framework underscored ancestral and historical dimensions of place belonging in Togoru, as well as personal, relational, cultural, economic, and legal connections to a place. This modified place-belongingness framework may be applicable to other Pacific Island countries and territories, and beyond, as people move and resist mobility in a warming world.

Author Contributions: Conceptualization, M.Y., A.E.P.-M., C.M. and K.E.M.; Methodology, M.Y., A.E.P.-M., C.M. and K.E.M.; Formal analysis, A.E.P.-M. and M.Y.; Investigation, M.Y.; Writing—original draft preparation, A.E.P.-M. and M.Y.; Writing—review and editing, M.Y., A.E.P.-M., C.M. and K.E.M.; Supervision, C.M. and K.E.M.; Project administration, C.M. and K.E.M.; Funding acquisition, C.M. and K.E.M. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded through an Australian Research Council Project grant (number DP190100604).

Institutional Review Board Statement: The study conducted was approved by The University of Melbourne Faculty of Science Human Ethics Advisory Group (Ethics ID 1851729.1; 13 December 2018).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: In accordance with the consent provided by participants on the use of confidential data, data are not available to be shared.

Acknowledgments: The authors would like to acknowledge the people of the Togoru community who generously shared their knowledge, perspectives, and insights. Thanks to the Fiji Ministry of iTaukei Affairs, and PA's office, based in Navua. Finally, to Bale Kurabui who assisted with the organization and logistics of fieldwork.

Conflicts of Interest: The authors declare no conflict of interest.

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