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Author

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## RESEARCH ARTICLE

# A climate justice perspective on international labour migration and climate change adaptation among Tuvaluan workers

Carol Farbotko <sup>1,\*</sup>, Taukiei Kitara<sup>2</sup>, Olivia Dun <sup>3</sup> and Christopher Evans<sup>4</sup>

<sup>1</sup>College of Sciences and Engineering, University of Tasmania, Private Bag 51, Hobart, TAS 7001, Australia,

<sup>2</sup>Independent Scholar, Agnes Water, QLD 4677, Australia, <sup>3</sup>School of Geography, Earth and Atmospheric

Sciences, University of Melbourne, Parkville, VIC 3052, Australia, <sup>4</sup>School of Law and Society, University of the Sunshine Coast, Sippy Downs, QLD 4556, Australia

\*Correspondence address. College of Sciences and Engineering, University of Tasmania, Private Bag 51, Hobart, TAS 7001, Australia. Tel: +61362266111; E-mail: cfarbotk@usc.edu.au

## ABSTRACT

Research on climate change and human mobility has posited migration as a potentially adaptive response. In the Pacific Islands region, international labour migration specifically is an important component of emerging climate change mobility policy, at both regional and national scales. However, the existence of opportunities for people in climate-exposed locations to move for work does not, on its own, advance climate justice. To gain insights into the nexus of climate justice, labour migration and adaptation, this paper explores the social and emotional experiences of international labour migration programme participants from climate-vulnerable Tuvalu as well as the emergent climate mobility regime in which this migration is taking place, drawing on qualitative research undertaken on the policy context and with workers from Tuvalu on short-term contracts under Australia's Pacific Labour Scheme. Their experiences, their perceptions of climate change and their role as livelihood earners for families are explored to consider issues of climate justice in understanding labour migration as adaptation. While the workers benefited economically, they experienced significant social and emotional issues including poor mental health and family breakdown during their time working abroad, in addition to long-term climate change concerns. Further, the labour mobility programme in which they participated does not recognize migration-as-adaptation or climate justice, even though these are an emergent priority in the climate mobility regime. This highlights the need to consider how international labour migration programmes can be strengthened to advance climate justice for climate vulnerable populations on the move.

**Key words:** international labour migration; climate change adaptation; climate justice; climate mobilities; Pacific Islands; Tuvalu.

## INTRODUCTION

It is now commonplace for policy and research on human mobility and climate change to perceive migration as a potentially

adaptive practice, often specifically migration for work, typically called labour migration or labour mobility [1, 2]. By definition, the mobile worker is adaptive when they generate financial and

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social capital (often in the form of remittances) and thereby can contribute to the building of resilience in a vulnerable, climate-exposed household or community. Evidence of climate change adaptation among households engaging in labour mobility is emerging, often in contexts of internal labour migration within national borders [3, 4]. The role of labour migration in advancing climate change adaptation is, however, complex. It can involve different sites of adaptation (including migrant sending and receiving locations as well as locations along the migration route taken) and different modes of advancing adaptation through mobility (such as the acquisition of new skills, social networks and finance) [4–6]. Empirical studies show that both adaptation and maladaptation can occur as part of the diverse experiences of people who are moving to work in new locations in a changing climate [3, 4, 7–9]. Furthermore, the concept of labour migration as adaptation in the context of climate change has been robustly critiqued from a structural perspective, as it can individualize responsibility for adaptation and reproduce the structural inequities which contribute to vulnerability in the first place [2, 10–13]:

When mobilized to cope with the impacts of climate change, labour migration becomes a means to govern risk via the disciplining of the behaviour of ecologically and economically vulnerable populations. Basically, it is through labour markets that the vulnerable are transformed into adapted, resilient subjects, and it is primarily through remittances that such a transformation is envisioned to take place [10, p. 183].

Those critiquing, importantly, point out that climate justice is easily marginalized in evaluations of labour migration and adaptation, with the opportunity to move somehow displacing, or perhaps obscuring, the need for climate justice if responsibility for resilience is transferred to climate-vulnerable people [2, 12]. Any consideration of labour migration as adaptation should, however, explicitly bring climate justice into consideration. When climate change causes harm to humans, these harms are unjust as not everyone contributes to the same extent to the creation of the negative impacts of emissions, nor equally enjoys the related benefits, nor has the same means to cope with the impacts [2]. Climate justice is advanced when harm is repaired in ways that takes these factors into consideration [2]. In the case of ‘international’ labour migration, climate justice considerations are perhaps of particular importance, as workers are often crossing the border into more industrialized countries which have produced greater emissions and, on this basis, arguably have a responsibility to explicitly advance climate justice via the labour migration programmes in their country.

There is increasing interest in and momentum towards integrating labour migration as a form of adaptation for climate vulnerable populations in national and international policies, including among powerful actors in climate mobility governance such as the European Union and International Organization for Migration (IOM), as well as in climate vulnerable countries such as Tuvalu and Kiribati and the Pacific Islands region more broadly [1, 14]. Given this policy momentum, what is needed are deeper understandings of the extent to which international labour migration programmes (also called guest worker programmes as the migration is typically temporary) can advance climate justice as well as climate change adaptation. Globally, international guest worker programmes are commonplace, often aiming to fill labour supply shortages in industrialized countries without adding permanent immigrants to the population [15]. Given the potential for shifting an unfair burden of responsibility for adaptation onto climate vulnerable

mobile people that this momentum may create, knowledge is needed of how migrants’ experiences of international labour migration programmes might challenge the discourse of adapted, resilient mobile subjects and highlight a need for additional policy action that explicitly encapsulates climate justice considerations. In this paper, we advance understanding of the rather complex nexus of climate justice, labour mobility and adaptation by considering the migration experiences of international labour migrants from climate-vulnerable Tuvalu, a low-lying atoll nation in the Pacific Islands region, participating in the recently established Australian Government guest worker programme titled the Pacific Labour Scheme (PLS). In addition, we analyse the emerging climate mobility regime in which these migration experiences take place. A climate mobility regime is an interconnected set of socio-economic and political relations consisting of different types of actors who frame, manage and regulate the nexus between mobilities and climate change in a particular manner, resulting in particular modes of governing of climate mobilities [16]. As with mobility regimes more broadly, climate mobility regimes are not fixed entities [16].

Indeed, in the Pacific Islands region, the climate mobility regime is emergent: several regional and national climate mobility policies and programmes are either very recently implemented or currently under development. Actors shaping the emergent regime include the IOM, Platform on Disaster Displacement as well as Pacific Island national governments, civil society, researchers, the media and Pacific Island citizens. Focusing specifically on international labour migration, important elements that are increasingly seen as part of the climate mobility regime include the PLS as well as two other highly regulated temporary labour mobility programmes (the Australian Seasonal Worker Programme [SWP] and the New Zealand Recognized Seasonal Employer [RSE] scheme) that are all open to Pacific Island people in the region. However, climate adaptation is not formally specified in the objectives of any of these three guest worker programmes (all established in the region over the past 15 years), although the programmes are being increasingly discussed in these terms by analysts [5, 7, 8, 17–25]. Simultaneously, national policy in some climate vulnerable Pacific Island countries is increasingly linking international labour migration with climate change adaptation, as discussed below for Tuvalu. Also, across the Pacific Islands region, a regional policy framework on climate mobility is under development and international labour migration features prominently in this work, building on a long history of international labour migration in the region. International labour migration currently constitutes an important sector of many Pacific Island economies and mobility more generally has always been important among Pacific Island societies, particularly prior to the arrival of and colonization of parts of the region by Europeans. Intertwined with customary practices of mobility is the colonial and postcolonial history of forced community relocations [26, 27] and labour migration in the region, including problematic forms of indentured labour [28].

There is, however, a scarcity of evidence-based research on migration as a form of climate change adaptation [29]. Our aim in this research is to contribute to knowledge of the experience of Tuvaluan labour migrants *vis-a-vis* the emergent climate mobility regime in the Pacific Islands region and analyse the extent to which such labour migration is likely to advance climate justice. Our research methods involved (i) an analysis of the climate change and mobility policy context in which Tuvaluan workers are migrating for work, (ii) an analysis of academic and grey literature elucidating the contours of debates on labour

migration in a changing climate in the Pacific Islands region and (iii) primary research with Tuvaluan labour migrants. These three elements each represent different parts of the emergent climate mobility regime in the Pacific Islands region.

The question of whether Tuvaluan people access international labour mobility programmes because they are experiencing climate change impacts is not central to our study, as previous research points to an absence of singular causality between climate impacts and migration [30–34]. Instead, following Boas et al. [16, 35], we focus our attention on co-producing knowledge of climate justice with migrant workers, as well as seeking insights into the complex ways in which mobility regimes incorporate climate change justice considerations or not [16]. We explore several research questions. First, how do migrant workers perceive climate change challenges and experience international labour migration as social, cultural and political subjects, as well as, potentially, adaptive agents? Relatedly, our second question asks how can the emergent climate mobility regime enable climate justice for migrant workers? In this, we were guided by an existing body of knowledge that highlights not only the role of migration in building resilience in the context of environmental change (e.g. through remittances) [36], but also the social challenges commonly faced by many international guest workers [37]. These challenges include vulnerability to exploitation, family separation, lack of access to permanent residency status and limited freedom of movement in the destination country [15, 18, 28, 37–41]. Our third research question is whether the social and emotional costs of international labour migration for climate vulnerable workers and their communities, as currently experienced, may be too high for guest worker programmes to contribute to climate justice, and, if so, how can emerging climate mobility regimes can better serve climate justice?

### **GAINING INSIGHTS FROM EMERGENT CLIMATE MOBILITY REGIMES AND TUVALUAN PLS WORKERS: METHODS**

Our methods involved, firstly, an analysis of how international labour mobility is being positioned in relation to climate change in Pacific Islands regional and national (Tuvalu and Australia, chiefly) policies and programmes, including identifying areas relevant to climate justice. Secondly, we reviewed the small, but rich, academic and grey literature that considers the complex links between climate change adaptation and international labour migration in the Pacific Islands, to elucidate debates and anticipate future policy directions, given the evolving nature of the policy environment in the Pacific Islands region. Thirdly, in 2021, we conducted in-depth interviews with seven international labour migrants from Tuvalu in Australia under the PLS. This represented nearly a quarter of the 34 Tuvaluan citizens in Australia as guest workers under the PLS in 2021. The workers, who had all been in Australia since early 2019, were between the ages of 27 and 45 years and shared their experiences working in Australia across three different industries: fishing, forestry and meat processing. Two had returned briefly to Tuvalu in 2020 for a holiday before returning to Australia. We do not report on gender in this study to help with confidentiality on sensitive topics shared by the workers.

As guest workers are known to be a potentially vulnerable group of research participants, the use of Tuvaluan customary knowledge and practices was identified as an ethically appropriate way of enabling participation in the study by workers

without placing unacceptable risk on participant well-being. This research was conducted under ethics approval (ID number: 1954713.1 for the Transformative Human Mobilities in a Changing Climate project) from the Faculty of Science Human Ethics Advisory Group at the University of Melbourne. Also, a member of the Tuvalu Brisbane Community and one of this study's co-authors, Taukiei Kitara, contributed customary knowledge and led data collection that followed customary practices prioritizing relations of care among the Tuvaluan community. Taukiei migrated to Australia as an adult, is the current president of the Tuvaluan Brisbane (Australia) community and is actively involved as a committee member of the Pacific Island Council of Queensland. In the first of these roles, Taukiei was already actively supporting migrant workers from Tuvalu, providing pastoral care to workers and liaising with their employers and programme representatives to address individual worker issues such as worker safety and mental health. Through PICQ, Taukiei also advocates for policy and programme changes on rights and wellbeing of seasonal workers. The customary concept of 'Fale Pili'—Tuvaluan look after their neighbour wherever they are in the world—shaped this study [42, 43]. Fale Pili guided identification of potential participants (through existing networks), inviting participants to be part of the study (informal discussion with Taukiei as a Tuvaluan leader who was well placed to understand both the policy context and the worker's vulnerabilities) and conducting interviews (in the Tuvaluan language, in the places of residence of workers, in groups rather than one-on-one).

As is customary when engaging in conversation in Tuvaluan culture, Taukiei visited research participants in their homes, where they felt most comfortable to speak freely and be listened to, in their own language. Taukiei was welcomed into workers' homes, where food and drink was shared and sometimes the workers and Taukiei played guitar and sang together alongside the interview process. The recorded conversations were transcribed and translated into English. Thematic analysis was conducted on the transcripts, with advice on themes continuing to be guided by considerations of Tuvaluan culture. Given the sensitive and personal nature of some of their stories, it was agreed that all participants would be referred to in publications using pseudonyms, and that their genders and the locations of their homes and workplaces in Australia would not be revealed as an extra layer of anonymity. Cognizant of the role of the governed in contesting and renegotiating mobility regimes, Taukiei became a trusted listener who was able to gain a rich understanding of their agency and resilience amid sometimes challenging conditions while working in Australia.

The remainder of this paper is structured as follows. In the next section, we describe the existing and in-development policies and programmes that are relevant to the governance of workers from Tuvalu who travel to Australia in guest worker programmes, situating these in the emergent climate mobility regime in the Pacific Islands more broadly. Then, we discuss insights from existing studies and commentaries on Pacific Island international labour migration, in which we find it important to include consideration of social and emotional as well as economic and environmental issues. This is followed by a section detailing insights from Tuvaluan participants in Australia's PLS on the links between the experience of international labour migration and climate justice, through their reflections on climate change and their role as livelihood earners for immediate and extended families. Finally, we consider if and how emergent climate mobility regimes can be strengthened to

improve climate justice outcomes for climate vulnerable populations on the move.

## INTERNATIONAL LABOUR MOBILITY AND CLIMATE CHANGE POLICY CONTEXT IN THE PACIFIC ISLANDS

In this section, we describe the policies that are relevant to understanding whether or not Tuvaluans are likely to experience climate just outcomes as they participate in international guest work programmes. This is a complex policy space, particularly because of the emerging nature of the climate mobility policy landscape in the Pacific Islands, at both regional and national scales. It should be noted that, in the policy development underway, climate mobility is increasingly being perceived in multidirectional terms rather than unidirectional: permanent migration elsewhere, particularly at the international scale, is not being viewed as the ultimate measure in terms of what 'climate-adaptive' migration can achieve. Highly local climate mobility solutions, such as village relocations inland from vulnerable coasts, are a strong focus, as are national policies which reduce the risk of displacement, and if displacement does occur, look to manage this within a country's borders [44]. In this context, international labour migration, in which workers bring back skills, knowledge and finance to their home communities, builds on existing mobility practices and is becoming understood as potentially contributing significantly to climate resilience in vulnerable communities. We now turn to describing the most relevant policies (Australia and Tuvalu) in some detail, as well as indicating how the emerging regional policy framework positions international labour mobility.

## PACIFIC ISLANDS AND LABOUR MOBILITY POLICY IN A CHANGING CLIMATE

We start with the guest worker programmes in Australia and New Zealand, which are notable in this context for operating without explicit recognition by receiving governments of international labour migration as a form of climate mobility, despite the increasing mention of this form of mobility in the climate mobility regime (see Table 1).

Australia and New Zealand have guest worker programmes that are a mainstay of their agricultural sector and other rural industries: the Australian SWP (established in 2012) and the New Zealand Recognized Seasonal Employer scheme (established in 2007). In these programmes, Pacific Island people work seasonally for several months in Australia and New Zealand, usually on farms. Introduced for reasons unrelated to climate change adaptation [17], these programmes were designed to fill gaps in labour supply, but also to advance economic development in participating Pacific Island countries. In 2018, Australia introduced another guest worker programme, the PLS. The PLS enables citizens of some Pacific Island countries to work in Australia for longer periods of time, between one and three years, in agriculture and other rurally located industries [45]. This newer programme likewise features an absence of explicit climate change adaptation considerations in its design, its objectives being to increase labour supply in Australian rural industries and enable economic opportunities for Pacific Island people. The Pacific Island countries involved in the three programmes (the PLS, SWP and RSE scheme) include: Samoa, Tonga, Fiji, Kiribati, Tuvalu, Vanuatu, Solomon Islands, Papua New Guinea and Nauru. Through the two longer running

programmes, the SWP and RSE scheme, approximately 130 000 visas have been granted to citizens of small Pacific Island countries to work in Australia and New Zealand between 2007 and 2019. (Note: the SWP and PLS are currently becoming integrated under the umbrella Pacific Australia Labour Mobility [PALM] scheme.)

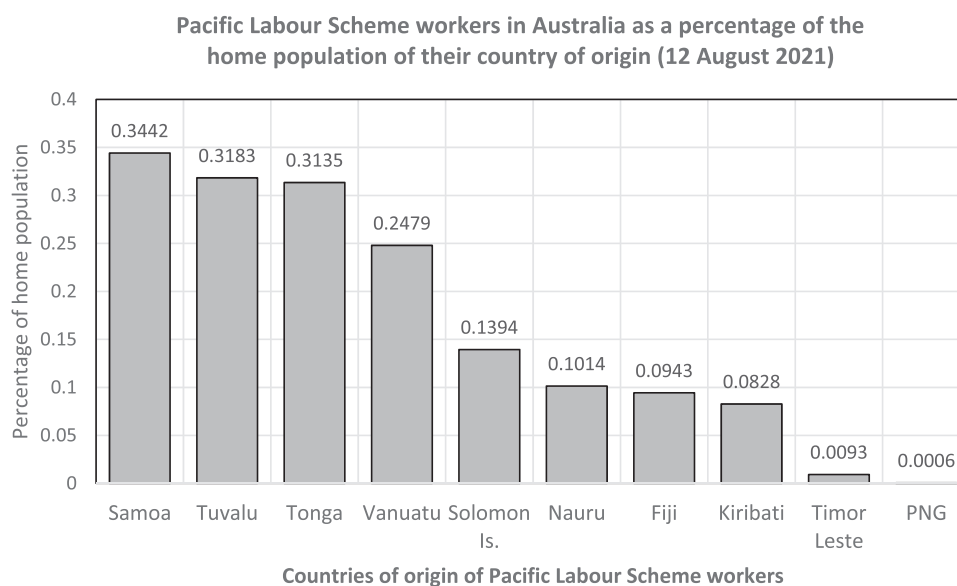
Specifically focusing on the PLS, this programme offers citizens of Pacific Island nations, including Tuvalu (aged between 21 and 45 years) employment in Australia in agriculture, aged care, tourism accommodation, meat processing, fisheries and forestry under the subclass 403 visa, issued by the Australian Department of Home Affairs (DHA) [45]. The PLS has its origins in the 2015 trial Pacific Microstates—Northern Australia Worker Pilot Programme which targeted participants from the Pacific microstates of Kiribati, Nauru and Tuvalu [46]. Originally intended to be a five-year pilot programme for up to 250 citizens from these Pacific microstates with a multi-year visa to work in 'lower skilled' occupations in Northern Australia, it was extended to become the PLS in September 2017. The PLS attempted to address inequalities in female participation in the SWP, particularly through its focus on non-seasonal work and employment in tourism, hospitality and care sector work in Australia [47]. Employment of PLS migrant workers is only permitted in rural and regional areas of Australia and only if labour market testing (by advertising of vacancies) shows that the local labour force is insufficient to meet expected demand. As the PLS is uncapped, numbers employed are determined by demand from registered and approved Australian employers, including both producers and labour-hire agencies.

Participants in the PLS are required to cover costs including the airfare to and from the migrant's home country to Australia (which is relatively high from Tuvalu compared with some other Pacific Island countries), travel within Australia from port of entry to the work location, health insurance, the visa application fee (AU\$315 as at October 2021), compulsory medical examinations and X-rays and police certificates to substantiate they are of good character. Some of the larger expenses (e.g. airfare and health insurance) are usually met initially by the employer and later recovered in installments from the worker's pay, which is also subject to Australian Income Tax at the same rates as for Australian residents [48]. The Pacific Labour Facility (PLF) is a private organization contracted by the Australian government to administer the scheme including arranging worker recruitment and welfare. In 2021, there were 3,939 workers from the Pacific Islands in Australia under the PLS, with 34 of these from Tuvalu. Figure 1 shows the relative importance of the numbers of PLS workers compared with national population, with Tuvalu second only to Samoa.

The three programmes are fulfilling their objective of providing economic benefits to Pacific Island countries, largely through workers earning higher wages in Australia and New Zealand than they would at home [18, 49]. However, as will be discussed below, the programmes also result in social and emotional challenges for workers and their communities more broadly in addition to economic benefits and it is important that such challenges be included in reckonings of programme success [24]. Further, while these three guest worker programmes have not formally specified climate change adaptation as a goal [17], identifying international labour migration that advances human security as a form of climate change adaptation is common among climate mobility policymaking and analysis in the Pacific Islands region [5, 7, 14, 19, 23, 25, 29, 50]. There is awareness of the complexity of the issues, with Gibson and Bailey [22] stating, for example:

**Table 1:** Overview of existing international labour mobility programmes and emerging climate mobility regime, Pacific Islands region

	Description of the international labour mobility, climate change adaptation and climate justice nexus
<b>Existing international labour mobility programmes</b>	
Recognized Seasonal Employer scheme (NZ) (2007–present)	Australian and NZ labour mobility programmes whose core purpose is to increase labour supply in Australia and New Zealand and to provide economic opportunities for Pacific Island citizens.
Seasonal Worker Programme (Australia) (2011–present)	All open to citizens of nine Pacific Island countries, including Tuvalu. Do not recognize international labour migration as a climate mobility action.
Pacific Labour Scheme (Australia) (2018–present)	Do not provide formal pathways to permanent residency in Australia or NZ.
<b>International labour mobility in emerging Pacific Islands region climate mobility regime</b>	
Enhancing the Capacity of Pacific Island Countries to Manage the Impacts of Climate Change on Migration (2013–2016) [project]	Clear focus on international labour mobility as adaptation, leading to Tuvaluan and i-Kiribati national policies on labour migration
Boe Declaration on Regional Security (2018) [policy]	Provides scope for national governments to develop activities related to climate resilience, including climate mobility
Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management (FRD) (2017–2030) [policy]	Identifies international labour mobility as a priority climate mobility action.
Enhancing Protection and Empowerment of Migrants and Communities Affected by Climate Change and Disasters in the Pacific Region (PCCMHS programme) (2018–2021) [policy-focused programme]	Human security focused and involving extensive consultations with national governments and civil society on climate mobility
Regional Climate Mobility Framework (2022–??) [under development] [policy]	Currently under development, builds on PCCMHS programme
National migration, labour and/or development policies (e.g. Kiribati's former Migration with Dignity policy, Tonga's Migration and Sustainable Development Policy 2019, Tuvalu National Strategy for Sustainable Development) [policy]	Linking of climate change resilience and international labour mobility among a suite of adaptive in situ and/or mobility measures, particularly in Pacific Island countries in which international labour migration already a common practice (e.g. Tuvalu, Tonga and Kiribati)
Analysis (e.g. Bedford et al., 2017; Dun et al., 2020; Gibson and Bailey, 2021)	Many analysts identifying international labour migration that prioritizes human security as a form of climate change adaptation

**Figure 1:** PLS workers in Australia as a percentage of the home population of their country of origin (12 August 2021).

Labour migration is not necessarily the answer to these problems [of climate change], but it can assist in providing external finance, relieving population pressures, and creating possible connections that help to set up new transnational diaspora (p. 23).

In parallel to the emergence of the PLS, SWP and RSE scheme, climate change and mobility policies have also been (and continue to be) produced and implemented, at both regional and national scales in the Pacific Islands region (see Table 1). One of the earliest of these was the (now repealed) Migration with Dignity policy of the low-lying atoll state of Kiribati. This policy was influential in conceptualizing i-Kiribati people as an increasingly skilled and educated, mobile people with a contribution to offer the global economy: their skilled labour [51]. When introduced a decade ago, the idea of ‘migration with dignity’ became influential in discussions of climate mobility, particularly as it resisted the prevailing narrative of Pacific Island people, especially those from low-lying atolls such as Kiribati, as likely to be forcibly displaced and in need of humanitarian assistance [25].

While policy reform to enable permanent migration to help respond to climate change is being suggested as part of climate mobility discussions [18, 22, 23], it is not the sole focus (of Tuvalu’s climate mobility policies for instance), nor is there an expectation that labour migration could be the ‘key’ channel through which to build climate resilience in the Pacific Islands more broadly. Labour migration needs to be understood as important among a suite of adaptive measures, many involving in situ adaptation or very local relocations to enable continued habitation of low-lying islands and coastal areas. For example, other, more recent national climate mobility policies in the Pacific Islands region include Fiji’s suite of policy instruments including ‘Planned Relocation Guidelines’, ‘Trust Fund for People Displaced by Climate Change’ and ‘Displacement Guidelines in the Context of Climate Change and Disasters’, ‘Vanuatu’s National Policy on Climate Change and Disaster-Induced Displacement’ and Tonga’s ‘Migration and Sustainable Development Policy 2019’ (see Ref. [50]), the first two of which focus substantially on internal climate mobilities, within a state’s borders. It should also be noted that, from some organizations in Pacific Island civil society, there are community and church leaders warning against exploitative practices and colonialist power relations in labour mobility, and that climate justice will not be achieved in labour migration under such conditions [52].

The regional policy space is also important in the emerging climate mobility regime. A joint UNESCAP, UNDP and ILO Pacific Climate Change and Migration project, funded by the European Union from 2013 to 2016 and titled ‘Enhancing the Capacity of Pacific Island Countries to Manage the Impacts of Climate Change on Migration’, led to the development of a 2014 Tuvalu National Labour Migration Policy (discussed below) and a 2015 Kiribati National Labour Migration policy. The latter further identified international labour migration as playing an important role in adapting to climate change in Kiribati [51]. At a regional scale, the 2018 ‘Boe Declaration on Regional Security’ identified climate change as the single greatest to Pacific peoples’ wellbeing, livelihoods and security, and provides scope for governments to develop activities connected with climate change related migration [29]. More specifically, the ‘Framework for Resilient Development in the Pacific: An Integrated Approach to Address Climate Change and Disaster Risk Management (FRD)’ (2017–2030) was created in 2016 to provide support and guidance for countries in the Pacific Islands region

to build resilience to climate change and disasters by placing sustainable development front and centre [53]. International labour migration schemes come among the FRD’s priority actions for addressing human mobility linked to climate change [29, 53].

The IOM is currently (2018–2021) leading a programme entitled ‘Enhancing Protection and Empowerment of Migrants and Communities Affected by Climate Change and Disasters in the Pacific Region’ (also known as the Pacific Climate Change Migration and Human Security Program [PCCMHS]), which aims to culminate in a regional rights-based framework on climate change and human mobility. One of the objectives of this programme is to enable Pacific Islands migrants and communities to benefit from safe labour migration as a sustainable development and climate change adaptation strategy. Within this programme, it is recognized that existing guest worker programmes, specifically the SWP, PLS and RSE, ‘do not explicitly refer to climate mobility’ but have potential to advance climate change adaptation if programme reform takes place [29]. The PCCMHS gestures to climate justice also, emphasizing that labour migration will only be effective as climate change adaptation if the human security of workers is paramount and the views of all affected stakeholders are at the forefront [29]. At the time of writing, a joint working group, co-chaired by the Governments of Fiji and Tuvalu, has been established under the umbrella of the Pacific Resilience Partnership technical working group on human mobility to support the drafting of a robust and practical regional framework on climate mobility that aligns with existing national and regional policies [54]. This regional framework will almost certainly include guest worker schemes within its scope, as reviews of Australia’s and New Zealand’s seasonal workers’ schemes take place as part of the second objective of the PCCMHS programme [54].

## LABOUR MOBILITY AND CLIMATE CHANGE: TUVALU’S POLICY CONTEXT

Tuvalu is a small, remote Pacific Island nation, consisting of a group of nine low elevation coral islands, just south of the Equator and roughly 3000 km due north of the northernmost tip of New Zealand. The total area of the islands is 25.6 sq.km, with a home population of 10 507 according to the 2017 census. In addition to being known globally as one of the most vulnerable countries to sea level rise, Tuvaluans have a long tradition of overseas migration for work. During much of the 20th century, many Tuvaluans, mostly males, worked in the phosphate mining industry on the islands of Banaba and Nauru and others found employment as seafarers on foreign ships. In the colonial era (prior to 1976), many were employed in the administrative headquarters on Tarawa, in the Gilbert Islands, which is now Kiribati. Remittances sent home by these migrants helped to support many Tuvaluan families and contributed to church and community projects in Tuvalu. By the early years of the 21st century, phosphate mines were closed and by 2007, the numbers of Tuvaluan seafarers employed had fallen significantly [40].

The evolution of labour mobility in Tuvalu’s national policies on sustainable development and climate change is summarized in Fig. 2. Tuvalu’s Te Kakeega II: National Strategy for Sustainable Development 2005–2015 [55] was the result of widespread community consultations and a National Summit on Sustainable Development held in 2004, a process representing ‘the largest national public discussion since Tuvalu separated from Kiribati in 1975’ [55, p. 2]. Te Kakeega II represented the views of people across the ‘entire spectrum of Tuvalu society’

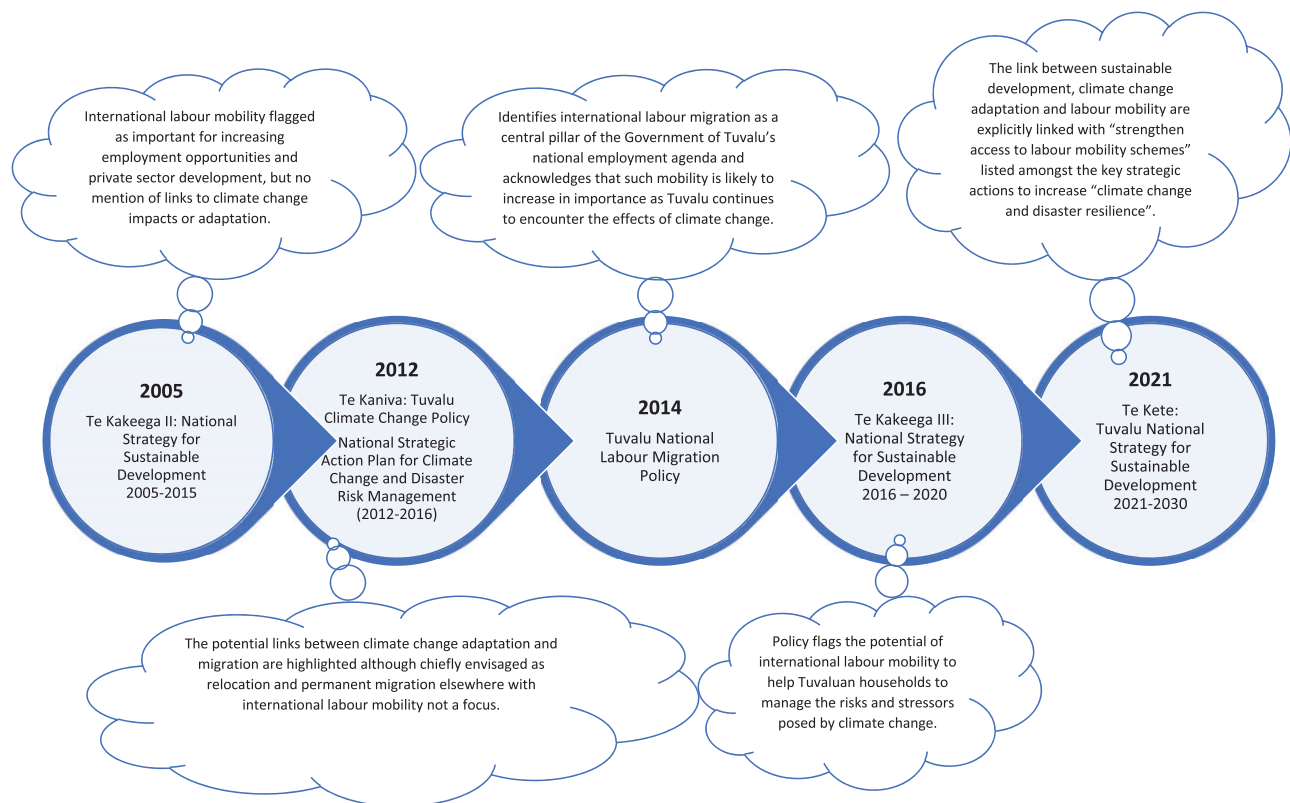


Figure 2: The evolution of connections between international labour mobility, development and climate change adaptation in Tuvaluan national policies.

(p. 3) and identified eight strategic areas of focus to guide Tuvalu's development, among which was a focus on the private sector and employment. Improving migration schemes and investigating new offshore employment opportunities in addition to the historically significant seafaring were key priorities. Tuvalu's Te Kakeega III: National Strategy for Sustainable Development 2016–2020 [56], the successor to Te Kakeega II, built on the eight strategic areas of focus to guide Tuvalu's development (as identified in Te Kakeega II) and added four more strategic areas: climate change, environment, migration and urbanization, and ocean and seas. It highlighted the increasing importance of international labour mobility to the Tuvaluan economy, especially via financial remittances generated for Tuvaluan households and facilitating economic empowerment of women. Te Kakeega III also highlighted the potential of international labour mobility to help Tuvaluan households to manage the risks and stressors posed by climate change.

In 2012, Te Kaniva: Tuvalu Climate Change Policy (TCCP) [57] was adopted, to guide the climate change mitigation and adaptation direction for Tuvalu over the past decade. The TCCP concentrates on ensuring and building technical capacity to deal with development of climate change data and monitoring systems to improve understanding of potential impacts, public awareness raising of climate change and improving and securing climate change finances especially to be able to improve governance arrangements, such as to be able to mainstream climate change across all sectors of Tuvaluan society and policies guiding the nations development and infrastructure. These are articulated through seven goals in the TCCP.

The seventh goal of the TCCP, 'guaranteeing the security of the people of Tuvalu from the impacts of climate change and the maintenance of national security', was driven by five main

concerns: signs that climate change impacts were already evident in Tuvalu, uncertainty about global commitment to reducing greenhouse gas emissions, the absence of any international policy for forced migration due to climate change, potential costs associated with population relocation due to climate change and a risk of loss of Tuvaluan identity and culture [57]. Four strategies were developed to address these concerns and work towards the achievement of goal seven. The first two strategies are focused on securing Tuvalu's Exclusive Economic Zone and ensuring Tuvalu has the capacity to remain resilient. The latter two strategies are focused on preparedness for migration and resettlement linked to climate change. Strategy 7.3 states '[the creation of a] Special Pacific Access Category (PAC) for Tuvaluan citizens considering climate change vulnerability and forced climate migrants' and strategy 7.4 states '[The development of a] Climate change migration/resettlement plan for each island in view of climate change impacts worst case scenario.' (p. 26). The Pacific Access Category is an existing ballot-based residency visa for New Zealand. It enables citizens from Fiji, Kiribati, Tonga and Tuvalu (who are between 18 and 45 years of age and who have a valid job offer) to work, live and study in New Zealand indefinitely [58].

How strategies 7.3 and 7.4 are to be implemented is detailed in National Strategic Action Plan for Climate Change and Disaster Risk Management (2012–2016) (NSAP). Within NSAP, strategy 7.3, through four specific actions, is intended to achieve the outcome of Tuvalu being prepared for any migration or displacement caused by climate change impacts. The actions to address strategy 7.3 as outlined in NSAP include: '7.3.1 Conduct investigations and recommend revisions on the opportunities available under the PAC; 7.3.2 Explore and secure other migration schemes including an expansion of the PAC; 7.3.3 Establish



professional training programmes in key identified occupations to allow for employment in neighbouring countries if climate change migration is necessary; and 7.3.4 Conduct awareness on the requirements and conditions.' [59, p. 53]. Strategy 7.4, through five specific actions, is intended to achieve the outcome that 'Tuvaluans have a secured place to live.' While the TNAS has a focus on planning for major relocation, political emphasis in Tuvalu since the TNAS has been much more focused on planning for *in situ* adaptation [36]. The Tuvalu National Labour Migration Policy [60], meanwhile, identifies international labour migration as a central pillar of the Government of Tuvalu's national employment agenda and emphasizes that such mobility is likely to increase in importance as Tuvalu continues to encounter the effects of climate change. The purpose of the Tuvalu National Labour Migration Policy is to inform Tuvaluans about safe and productive employment opportunities overseas (both temporary and longer term) and assist them to 'migrate with dignity' to other countries [60, p. 9]. Importantly, the policy notes 'it is not a comprehensive document on climate change induced migration' rather it emerged in recognition that Tuvalu did not have an overarching strategy on 'how labour migration can best contribute to development in Tuvalu' [60, pp. (iii), 1]. It provides the 'principles and guidelines for the protection of migrant workers, the governance of labour migration and for enhancing the development benefits of migration while minimising any negative impacts' [60, p. 18].

The Te Kete: Tuvalu National Strategy for Sustainable Development 2021–2030 [56] is the most recent of Tuvalu's Sustainable Development strategies and it explicitly links development, climate adaptation and labour mobility. Desired National Outcome 4 (under Strategic Priority Area 'Enabling Environment') is 'Climate change and disaster resilience [are] increased' with Key Outcome Result 'Our islands' adaptive capacity has increased our resilience' [56, p. 5]. Strengthening access to labour mobility schemes is specifically listed as one of the five key strategic actions to enhance adaptive capacity alongside adaptation actions such as land reclamation and increased access to funding from global climate financing facilities. Of note is the particular emphasis on participation in labour mobility schemes to achieve increased resilience.

## PACIFIC LABOUR MOBILITY: ADAPTATION POTENTIAL, BUT WITH SOCIAL AND EMOTIONAL CHALLENGES

While research on how international labour migration helps or hinders climate change adaptation in the Pacific Islands region is scant, recent studies reveal some ways in which participants in the guest worker schemes contribute to adaptation when they return to their island communities. For example, returning migrants in Vanuatu are financing adaptive investments such as solar panels in their communities [22, 61], others are disseminating knowledge and skills in adaptive agricultural techniques learned while working abroad [7]. There are examples of financial remittances from guest workers increasing following a natural disaster [8]. Employers of guest workers are also, at times, contributing to adaptation in worker communities, both in cases of disaster and more generally. For example, one employer led a team of tradespeople to help their guest workers rebuild in their island communities following a disaster [8]. While New Zealand's RSE scheme was 'adapted' to be more responsive to the needs of migrants and their disaster-affected communities after Cyclone Pam, several studies suggest that the guest

worker programmes, as currently configured, are not reaching their full potential in terms of advancing climate change adaptation [5, 7, 8, 62, 63]. For example, while knowledge about climate resilient agriculture among workers and employers is being gained in Australia, the serendipitous and *ad hoc* nature of this learning could be more systematized if targeted agricultural learning opportunities were built into the programmes [7, 62]. The complex question of how adaptation can be advanced in home communities, by catalysing adaptive investment of skills and finance gained abroad and addressing the social change that ensues as a result of labour migration, is only beginning to be addressed [5, 36, 61]. Indeed, systemic development benefits for communities, beyond financial gains from relatively higher incomes, have not been established so there remain questions about the structural efficacy of the programmes in advancing 'sustainable' development [61, 64] let alone climate change adaptation or climate justice. Moreover, many studies of the economic development outcomes of the programmes do not capture the interlinked stressors and multi-faceted nature of vulnerability among the communities in the Pacific Islands who participate in guest worker schemes [62]. There are complex social dynamics that create new or exacerbate existing vulnerabilities as workers circulate, at times residing in their home city or village and at times in their place of employment abroad, even before climate change is taken into account [18, 65]. For example, when men participate in seasonal work, women may not only shoulder a heavier burden of household duties, but also perform the customary roles and communal commitments of the husband when he is away [65]. This changing social structure also has emotional impacts:

Women left behind not only pick up the pieces, as far as unpaid work (both productive and reproductive responsibilities) is concerned, but also shoulder the emotional and psychological stress of being neglected or left behind. [65, p. 61]

A 2018 World Bank study into the social impacts of Australia's SWP for Pacific Islanders including both participating households and non-participating households from Tonga and Vanuatu revealed both positive and negative social impacts of the SWP. Positive impacts included the ability to acquire new knowledge and skills or social remittances via the SWP. For example, female seasonal workers reported increases in their level of financial literacy, leadership, entrepreneurial and English language skills resulting in better ability to manage, coordinate and control household finances when they returned to their home countries [66]. However, this study also found that absence of workers from their immediate families often leads to negative impacts including eroded trust and commitment between couples brought about by a lack of communication which in-turn led to negative impacts for intimate relationships and families [66]. The social and health impacts of seasonal and temporary migrants from Kiribati and Tuvalu to Australia are not yet well documented [67].

The geographic nature of the guest worker programmes—providing labour to often remote regional areas—is highly socially isolating and there are concerns about workers being subject to exploitation and abuse [68]. Often being poorly integrated into local communities, and having very little access to services, workers' experience boredom and emotional distress, and often do not have good coping strategies to maintain resilient mental health [37, 69]. Internet access can help facilitate social connections, particularly with family members back home, but does not guarantee that social relationships are well-maintained over long periods of separation [37]. Connell and

Petrou [69] highlight the importance of social life of workers while abroad, including their contributions, in some areas, to the host community life through church and sport activities. Important aspects of social life for workers include being easily able to access transport to shops and other facilities, suitability of accommodation and the adequacy of pastoral care.

Taking these considerations into account in reckonings of adaptive and climate justice potential of guest worker programmes is important: the experience of going abroad to work can be challenging and can cause significant negative social and emotional impacts on workers themselves and their communities back home [37, 65]. While the holistic and long-term social effects of guest work on Pacific Island societies is not well documented [41, 61], that worker welfare is an important issue while workers are abroad is relatively well-recognized in the programmes themselves. The RSE scheme and the SWP have found it increasingly necessary to provide pastoral care arrangements to help workers adjust to being absent from their families and home communities, and avoid negative health outcomes and lowered productivity or participation [70]. Under the RSE scheme, for example, this includes providing opportunities for religious observance and recreation in addition to providing access to suitable accommodation, arranging transport within the destination country and safety equipment when needed [70, 71]. However, there are also known issues with employers and programme administrators being unable to provide the necessary quality of pastoral care to workers [69]. Community groups, particularly diaspora organizations, tend to fill the gap, but their role is largely informal and too often *post hoc*. Diaspora groups more specifically, with their important cultural knowledge, position themselves as having an important, but not yet fully realized, role to play in programme reform and worker support that could be better recognized, supported and valued in the formal governance of the programmes [72].

Returning to the issue of climate change adaptation and Pacific labour mobility, we note that among climate mobility studies, recommendations include, but are not limited to, an option of permanent international migration for guest workers [23]. Such an option is not currently available in any of the guest worker programmes available to Pacific Island people and indeed lack of pathways to permanent residency has been a long-standing issue for guest worker programmes globally [38], noting that the Pacific Access Category pathway in New Zealand does offer a permanent migration pathway through a ballot system. While permanent migration is not a panacea in achieving adaptation, as many guest workers prefer to return to their home communities upon completion of their contracts [5], the question of permanent migration options remains pertinent to whether international labour migration can advance climate justice.

## GAINING INSIGHTS FROM TUVALU PLS WORKERS

As discussed above, the Tuvaluan workers interviewed by Taukiei are moving in a climate mobility regime, only part of which is at the early stages of structurally advancing their access to climate adaptation and climate justice as part of their time working abroad. We report on both positive and negative aspects of the workers' experience, in order to convey the complex arrays of challenges and opportunities which Tuvaluans experience while working in Australia, where they are not simply 'workers' or 'adaptive agents' but also Tuvaluan citizens

concerned about climate change, livelihood earners for extended families and often parents experiencing strong emotions while separated from partners and children. Participants were encouraged to discuss climate change issues on their terms, including migration-as-adaptation. Participants perceived their work in Australia mainly in relation to immediate concerns about family obligations, not primarily as a way of addressing climate risk in the present. However, all the workers had observed climate change impacts and some were engaged in longer term decision-making around climate change that was influenced by their labour migration experiences. Migration-as-adaptation was seen in terms of a new awareness of opportunities, for instance, to grow food on some of the vast land in Australia and less about simply finding a 'safe' place to live away from Tuvalu.

As expected, all participants found that the wages they earned in Australia under the PLS were significantly higher than in Tuvalu and that they were able to provide considerable support to their immediate family and some extended family, as well as church obligations. Most had also learned new skills, such as fishing techniques or meat-processing skills that often built usefully on their pre-existing knowledge and work experience. Some of these skills were identified by the workers as being potentially useful to take home and apply in Tuvalu. All seven workers, however, were also experiencing homesickness and found it particularly hard being separated from their partners and children for extended periods of time. For those in remote, rural communities where there were limited recreational opportunities, except to frequent the local pub, coping strategies to deal with homesickness and separation from loved ones often involved regular excessive drinking. While for those who were in larger towns and cities, this was less of an issue as there were other things to do (e.g. shopping). Attachment to Tuvalu was strong for most of the participants. For example, Worker G2 explained that it would be difficult to return to Australia again on another contract because they missed family and the subsistence lifestyle in Tuvalu: 'I want to stay back in Tuvalu because of my family and go fishing everyday to feed my family.'

Most of the seven workers had experienced communication challenges with people in Australia due to cultural and language differences. Some had difficulties communicating with employers about sensitive issues such as pay queries, severe homesickness leading to poor mental health or unsafe working conditions (Taukiei was involved in helping several workers' experiencing severe anxiety in his role as President of the Tuvalu Brisbane community). For others, speaking with employers was easier, generally on less sensitive topics such as training opportunities and once a good foundation of trust had been built. Several of the workers found that communicating with PLF officers was difficult as these officers were rarely involved in their work lives and not perceived by the workers to be approachable. When welfare problems arose, the workers in this study all felt that issues were much easier to address and resolve through the involvement of members of the Tuvaluan diaspora than the programme representatives or employers. Having someone who could speak the Tuvaluan language, and understand their point of view, as well as act as a mediator and facilitator between workers, and their employer or the PLF officers, was highly valued. Participants also valued having access to events and social media activities that connected them in social ways to the small diaspora of Tuvaluans based in Australia.

Diaspora pastoral care was particularly important in the instance of worker exploitation, associated with unsafe work practices, reported by two participants with the same employer,

B1 and B2. These two workers had chosen to leave their first employer rather than be subject to unsafe work practices—and perceived themselves as lucky to have a relative in Australia who could take them in. They would otherwise have been unable to afford accommodation during the early lockdown months of COVID19 pandemic, since the programme itself had no arrangements in place for those who chose to end their employment contract to avoid exploitation. The PLF officers could only offer support in arranging new employment contracts, not interim accommodation or payment of medical fees incurred from sustaining injuries at work. The worker exploitation issue was never addressed by PLF, to the workers' knowledge. For those who had established good relations with their employers, they found that access to new opportunities arose in the workplace, at times benefiting both workers and employers. For example, some employers offered training in new skills such as firefighting, others were looking to recruit further workers from Tuvalu through the social networks of the workers as they were viewed as highly productive. Worker K negotiated an interest-free loan from their employer to purchase a car, which enabled greater local mobility and enhanced sense of autonomy.

Several of the workers, and some of their family members back home, were experiencing significant effects on their emotional well-being caused or exacerbated by participation in the programme and the ensuing long-term separation from family members in Tuvalu. Most of the study participants lamented not being able to spend time with their children at the end of a hard day's work. Two of the seven workers interviewed had their marriage end while in Australia and one dealt with the grief of the death of a very close family member while waiting several months to return home because of this death, due to international travel restrictions associated with the COVID-19 pandemic. For those whose marriages had ended, it is worth noting that while the reasons for a marriage breakup are always complex, their spouses at home in Tuvalu were struggling emotionally without their partners present in day-to-day life and reportedly chose to find new partners to fill this gap. This meant, according to Tuvaluan custom, that the workers immediately stopped sending them money from Australia and sent money instead to other family members such as a parent or sibling, whoever had become responsible for looking after the workers' children according to custom when a marriage ends. What is perhaps most significant here is that the financial support from remittances, while indeed important, was not an important enough glue to keep the marriages intact. The spouses at home perhaps chose to fulfil their emotional needs by finding a new partner rather than continue alone with a fairly secure income from remittances. In one case, the worker was supporting 23 members of their spouse's family when the spouse chose to leave the marriage, so the spouse's decision to leave would likely not have been an easy one.

All participants interviewed for this study were aware of climate change impacts on Tuvalu and most related these to the difficulty in conducting agricultural activities with increasing salt water intrusion and flooding. Worker K1 described climate change as a 'big threat'. The question of permanent migration away from Tuvalu due to the effects of climate change was something being thought about, but not necessarily being actively planned for, by most of the study participants. Worker B1 was conducting negotiations with an employer to enter into a pathway for permanent employment to secure permanent residency in Australia. In this latter case, the worker was explicit that their reasons for seeking permanent employment in Australia were not associated with climate change concerns,

but rather arose from seeing the possibilities of working hard to have a different life as a newly single person in Australia, rather than be a 'money machine' for the extended family of his spouse at home, whom they felt did not appreciate them no matter how hard they worked and how much money they sent back. Worker B2, who was not actively seeking permanent residency but considering its benefits, was attracted to the prospect of good healthcare and education systems in Australia for their children's sake. For another worker, G2, also unsure about moving, a combination of the pull of good healthcare and schools in Australia combined with a pragmatic view that moving abroad might be safest to avoid climate change impacts in Tuvalu in the longer term. The question of permanent migration away from Tuvalu due to the effects of climate change was something being thought about, but not necessarily actively planned for (except by Worker B1), by most of the participants. The experience of working in Australia, however, catalysed a view among several of the participants that moving to Australia was a pragmatic and sensible possible pathway to consider. For example:

Tuvalu is very small and we see the immediate impacts of climate change on our lands. With sea level rising and severe storms and cyclones, our agricultural lands where we grow our food are inundated by the sea. Our underwater or underground waters are contaminated and we can no longer use it and our pulaka and taro pits are getting saltier than ever. Here in Australia, there are a lot of land and spaces where people can grow food and its really becoming attractive for me to want to stay here and be able to grow my own food and go fishing. Or work hard and earn money to here in Australia to be able to put food on the table and a roof on top of our heads (Worker M1).

We can no longer grow vegetables or food crops because there is no use. When a cyclone hits everything gets inundated with sea water and the winds just wipe out our crops like rubbish or big trees fall onto our gardens... in the last cyclone the sea came from the ocean side and from the lagoon side and they meet in the middle of the island leaving a path of destruction, killing our pigs, and our pulaka and taro pits are full of sea water. Our staple food sources get destroyed pretty much every cyclone. It's not good at all. I think it would be wise for us to try and find other places for our families to move to (Worker G1).

For another, however, the resilience of Tuvaluans back home was most important in addressing climate change challenges:

The previous cyclones did a lot of damage to houses and vegetations especially in [a rural island] where my wife and kids are. But we are strong people and we never let things like this stop us from living our lives as Tuvaluans. The people have already starting to rebuild their homes, pulaka and taro pits because that's who we are (Worker B2).

A final observation was that one of the workers had faced multiple serious challenges during their time in Australia, potentially compounding effects on their emotional well-being. Worker B1 had faced the unsafe working conditions and possible homelessness on leaving the exploitative workplace, only to find new employment in an extremely remote town with very little in the way of services, which is where they heard their spouse had ended their marriage. Worker B1 was particularly interested in proving the value of their work to their employer, however, and was also intent on rebuilding their life by moving permanently to Australia. This was motivated by a desire to leave behind the social and emotional stress of their failed marriage, which they felt would be difficult to deal with if they returned to Tuvalu in the long term. With no children of their own, they planned to still support their own parents and

siblings through remittances as a long-term resident of Australia. A few months after the interviews, we learned from Worker B1 that they had become engaged to a local person in the Australian town in which they were living, planning to get married in the near future.

## DISCUSSION

Tuvalu's National Labour Migration Policy has a Foreword by its then Minister for Foreign Affairs, Trade, Tourism, Environment and Labour, which states, in part [60]:

Tuvalu has a proud history of labour migration. As a seafaring nation, our people are familiar with the benefits and challenges of working abroad—deriving remittances and new skills, but also coping with the challenges associated with being away from family and the community. With the difficulties of creating sufficient work opportunities on our small islands, labour migration is a central plank in the government's employment agenda. The importance of labour migration as an option for our people is likely to increase further still as climate change continues to batter at our shores and wreak havoc on rain patterns, groundwater and oceans, impacting on subsistence agriculture and other livelihoods options (p. iii).

Tuvalu as a climate-vulnerable nation values a dignified form of labour migration that contributes to adaptation as part of a suite of measures to ensure that its population can continue to live on the islands as long as possible, but also to facilitate migration by individuals or households if they choose to do so. Labour migration is likely to remain important to the Tuvaluan economy and to individuals' and households' adaptation into the future. Remittances in Tuvalu can form an important part of building household and community resilience against environmental change, through such things as investment in new agricultural equipment, paying school fees and rebuilding assets damaged in disasters [36]. However, labour migration from Tuvalu is happening in a context of increasing climate anxiety [73]. Thus, when moving abroad for temporary work, Tuvaluans, including those in our study, are likely to be concerned about climate change impacts and may be experiencing anxiety related to these concerns. Our results indicate that the experience of international labour migration can also create new social and emotional vulnerabilities for workers, arising from experiences of culture shock, homesickness and family separation. Taking both concern about climate change and social vulnerabilities associated with working abroad into account, building resilience through labour migration cannot be singularly understood through access to higher wages [37]. As an economic opportunity available at the potentially high cost of social risks associated with issues such as isolation, unsafe work conditions and marriage breakdowns, labour mobility as currently experienced by the participants in this study aligns with existing knowledge about the impacts on worker wellbeing and arguably represents an unfair burden from a climate justice perspective. Any reckoning of programme success must monitor whether social and emotional hardship is increasing among people already possibly experiencing social and emotional effects of climate risk to their homelands. Since climate justice is advanced when harm is repaired in ways that takes factors such as existing levels of hardship into account, guest worker schemes could do more in terms of ensuring the welfare of participants. Given the social toll of labour migration, there needs to be a new approach to what climate change adaptation on the move includes: toiling for years in difficult conditions and being separated from family members can potentially

be maladaptive in and of itself, given the social and emotional costs to workers and their families and communities, even if skills are learned and remittances sent and particularly so if worker exploitation occurs. The programmes as currently configured fall short of advancing climate justice for Tuvaluan workers.

It should be noted that while some of the workers in this study were certainly weighing up the benefits of moving permanently to Australia, permanent migration was an option to be considered among a range of other considerations, such as attachment to Tuvalu and family dynamics. Access to permanent migration may be important, but may not necessarily achieve climate justice even if technically available, if workers must endure years of social and emotional hardship before having legal access to an alternative place to live. Climate justice, we suggest, cannot occur when existing and new structural inequities are experienced by workers from climate-vulnerable countries in a mobility programme organized by industrialized countries [2]. In sum, our study suggests that climate-just labour migration cannot be achieved without a holistic approach that, at the very minimum, includes social and emotional as well as economic considerations arising through international labour mobility and facilitates adaptation outcomes across multiple locations.

The international community has a role in ensuring that guest work is safe and indeed human security and worker safety are being emphasized in the emerging rights-based regional climate mobility policy framework [29]. The International Labour Organization, a relatively new actor in the climate mobility arena [14], will likely play an increasingly important role in this regard given its mandate and mission to advance social justice through decent work and promote human and labour rights [74]. Where climate justice is concerned, ILO has already considered their role towards a just transition for all under climate change [75] and has been increasingly paying attention to the role of labour mobility as a form of climate change adaptation and how to address governance dimensions [67, 76]. In the Pacific Islands region, for example, the ILO's recently commissioned study into labour mobility, a recommendation for the governments of Kiribati and Tuvalu was that they 'could lobby for the consideration of "vulnerability to climate change or natural disasters" within the selection process for the RSE, SWP, and PLS, giving workers from these countries a small advantage' [77, p. 24].

There is also an important role for the bilateral partners who implement the guest worker programmes to ensure safety and human security, and incorporate climate change adaptation and climate justice, in their guest worker programmes. The governments of these countries are well-placed to facilitate more effective pastoral care for workers and institute programme reform to better enable a positive social and emotional experience among workers. Other reforms that bilateral partners could consider may include enabling spouses and children to join workers, pathways to permanent migration and formal, non-tokenistic inclusion of diaspora groups in guest worker governance and support structures. Indeed, these are three specific suggestions with respect to the PLS that have been made by McAdam and Pryke [23] in their suggested Roadmap for Australian Action to respond to and plan for the links between climate change, disasters and mobility in the Pacific Islands region. Gibson and Bailey [22] also highlight that pathways to permanent residency could be especially helpful for workers from locations particularly vulnerable to climate change impacts because of opportunities to increase sources of external finance to

those locations, relieve population pressures and harness connections to transnational diaspora.

Remling's [14] study with development actors at the regional level in the Pacific points out that the emotional, psychological and social costs—for the workers themselves and their home communities—need greater recognition if climate change adaptation is to be achieved:

Greater attention should be paid to the emotional and material impacts on children and extended families drawn into caregiving roles, and the psycho-social wellbeing of all parties involved ... existing human rights and development commitments provide a framework for the development of a temporary labour migration scheme that proactively and effectively addresses these challenges and concerns. [47, p. 3]

We would be sceptical of any emerging policy rationale that rebadges existing labour migration schemes as 'adaptation', without recognizing the important role of social and emotional well-being for both workers and their communities back home in adaptation. Indeed, we note that Te Kete policy is embedded with the language and sentiment of improving 'the social wellbeing of all Tuvaluans' [p. 10]. We also consider it important to highlight the agency of the workers themselves in contesting and renegotiating the mobility regime in which they work. Leaving an unsafe working environment, engaging with family and friends in the Tuvaluan diaspora (especially for support in times of distress) and building a new life in Australia through negotiation of on-going permanent employment: these are examples of the agency of Tuvaluan workers in addressing their struggles and finding support, regardless of the mobility regime, which in some instances was failing them. However, resilience among Tuvaluan workers does not negate the need for reform of international labour migration programmes to be better advance climate change adaptation and climate justice.

## CONCLUSION

The question of whether labour migration advances climate justice among climate vulnerable people who have played almost no role in global greenhouse gas emissions is an important, albeit rarely recognized one. In current climate mobility regime in the Pacific Islands, the opportunity for fairly paid, dignified work abroad is increasingly seen as an opportunity to enhance climate change adaptation in a broad sense, with workers' sending financial remittances and acquiring new forms of social capital to take back to their home communities following completion of their work contracts, with many participating in multiple seasons of work abroad. Climate justice, we have discussed, does not necessarily follow. Indeed, climate justice could be more explicitly and adequately incorporated into policy on the labour-migration/adaptation nexus, not least because existing international guest worker programmes are known to often create new problems for workers' and their communities', social and emotional well-being. This study has highlighted that if workers and their families back home face significant social and emotional issues including poor mental health and family breakdown in addition to climate change concerns, international labour mobility, as currently configured, is poorly equipped to serve climate justice, and may be maladaptive. In the future, this should be addressed as policy reform attempts to incorporate climate adaptation priorities and build a just climate mobility regime. It is important to recognize that those who participate in international labour migration have their own agency in working with or contesting mobility regimes and

their own understandings of what climate change challenges they are facing and how these affect their livelihoods and the future. Working with labour migrants themselves to understand how they perceive climate change challenges in the context of their migration practices is vitally important and should inform policy development. Also, labour migration-as-adaptation policies, given their increasing traction in international, regional and some national climate change adaptation policy frameworks, could do better at prioritizing worker's wellbeing than current labour mobility programmes, and not assume that existing schemes can produce good adaptation or climate justice outcomes through financial gains alone, or even through reform to enable pathways to permanent residency. In the Pacific Islands, migration and development policies are exploring how migration can serve the citizens of the region better. The onus is currently on the countries who rely on these workers for their industries to do likewise and increase focus on workers' rights and wellbeing. This involves explicitly integrating both climate change adaptation and climate justice considerations into guest work programmes.

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## CONFLICT OF INTEREST

The authors have no conflict of interest do declare.

## AUTHORS' CONTRIBUTIONS

C.F.: conceptualization, methodology, investigation and writing—original draft and review and editing. T.K.: conceptualization, methodology, investigation and writing—review and editing. O.D.: conceptualization, visualization and writing—review and editing. C.E.: visualization, investigation and writing—original draft.

## DATA AVAILABILITY

The data underlying this article cannot be shared publicly due to ethical considerations and privacy of individuals that participated in the study.

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