



Pacific Voices and Climate Change

Edited by
NIKI J. P. ALSFORD

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Introduction

Niki J. P. Alsford

Climate change represents one of humanity's greatest threats. The vastness of the Pacific means that no two experiences are the same. Occupying more than one-third of the Earth's surface, the Pacific Basin, from its fringing rim, its islands, and ocean, is a region that exhibits a unique geographical expanse. It is, for the most part, ocean peppered with islands. It is surrounded by a continental rim that is mostly marked by mountain ranges that trend parallel to the coast. These ranges act as barriers to the movement of air and various living things, including people. This has historically given the Pacific Basin an unmatched climatic and biotic integrity (Nunn 2007: 17). The principal control over climate within this basin is solar radiation that is distributed by latitude. The regional regulator on climate and ocean circulation is the configuration of its differing land and sea systems. As such, the main determinant of environmental change in the region is the alteration of this balance. Environments within the Pacific have changed for multifarious reasons over the last millennia. Understanding this change has not always been simple.

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Scientific understanding of how the climate has changed over the last hundred years, for which there are instrumental records and climate proxies, is the least controversial period. Changes occurring within these years witnessed far less variation, until now. Today the principal process driving regionwide environmental change is undoubtedly sea-level rise. Patrick Nunn (2007) argues that, historically, there were three significant periods of environmentally determined change within the Pacific. The first, termed the 'Medieval Warm Period' (750–1250AD), witnessed a stable climate. Here archaeological records show a flourishing of cultural exchange and the beginnings of complex irrigation systems boosting agricultural activity. Warmer waters meant diverse and extensive marine productivity. It is within this period that long-distance voyaging across the Pacific occurred. Migration, therefore, within this period took place during a period of relative climate stability as opposed to one of forced displacement. Around 1250–1350, a significant climatic event, the origin of which has multiple proposed causes, occurred that saw a rapid drop in temperatures and sea levels. This event witnessed a sharp depletion in resources that resulted in food shortages and significant societal change. It was following this event that we witnessed the erection of megalithic monuments, such as the Moai on Rapa Nui (Easter Island) and Nan Madol on Pohnpei in Micronesia. On the island of Tonga, evidence is clear in the popularity of statue production. The event in question led to a Little Ice Age (1350–1800) that saw continued rapid climate change. The Pacific Ocean witnessed an increased number of high-intensity storms, large-scale population dispersal, changes in resource utilisation, and a reduction in interconnected trade interaction. The period witnessed a rise in regional conflict and a cessation of long-distance voyaging. In certain locations, coastal communities abandoned lowland settlements for higher ground, and we witness the occupation of smaller islands, and indication of sporadic displacement. The recent warming within the Pacific has given rise to unprecedented complexities in Pacific societies. The colonisation of the Pacific in the nineteenth and twentieth centuries and the confirming of legal international boundaries has meant that movements of people, as a response to periods of climate change, are no longer possible. What is more, climatic change in the Pacific today is anthropogenic. This has meant that understanding this challenge warrants new analyses.

Worldview expressions by the peoples who live within this rim are embedded within cultural traditions that form part of the peoples' heritage and identity. Passed down through generations, specific belief

systems act as guardians of traditional knowledge. Usually referred to as TK, this includes various types, such as subsistence knowledge, or techniques that are used in agricultural practice, fishing, and hunting; ecological knowledge that includes ethnobotany; and health and well-being, which incorporates traditional medicinal practice, social health, and spiritual balance. Although ‘tradition’ is used to conceptually describe the aforementioned knowledge systems, it is important to note that this is not stagnant and inert. On the contrary, it is continually being amended and built upon. TK is a vital asset. It belongs to its people. It reflects their identity, their community’s history, their values, and most importantly, it is used as indicators in their understanding of the surrounding environment. These reflections foster a relational approach between the human and non-human worlds, and this association between peoples and their environment provides a useful setting in understanding and documenting changes within the natural environment of the Pacific.

The multidisciplinary nature and the combination of both academic and non-academic writing have broadened the intended target audience. Attention to this is important as strains on already fragile systems have only been exacerbated by the ongoing COVID-19 pandemic. The reduced media attention on climate change in the wake of the pandemic has shifted the world’s attention. This book is an attempt to maintain space for continued discussions on climate change in the Pacific. It is a timely analysis of the impacts of climate change on Pacific coastlines, communities, and societies. Using current research to document climate change via contextually informed research, the authors engage with local cultures, histories, knowledges, and communities. The rates of change within our climate are progressing fast and the peoples of the Pacific region are among those who contributed least to this change, but are among the worst affected. This book examines the problems of environmental change on traditional life and culture from a transdisciplinary context. The chapters that make up this volume were contributed by both academic and non-academic writers.

The first chapter, by Bob Walley, explores the key challenges facing Pacific Island communities because of changes in climate, particularly rising sea levels and storm surges. The chapter concentrates on the Kiribati islands and looks at the debates surrounding the modern displacements of its peoples. The chapter opens the discussion of indigenous perspective, knowledge, and experience in any future migration and adaption initiatives. This is then followed by Sojin Lim, whose important work explores

the problem of adaptation to climate crises in island regions from the perspective of the recent Sustainable Development Goals (SDGs). Lim's chapter examines how climate change among Small Island Developing States (SIDS) is addressed in UN SDG implementation policies. With a focus on the Pacific, Lim argues that while there is an extensive amount of research about SIDS and climate change, few have given particular attention to the SDGs and donor engagement in SIDS. The chapter, using Pacific SIDS, reflects on how unsustainable situations, caused by climate change, are driven in national development strategies and further asks whether the donor community integrates the community's needs, as expressed by the recipients, into their development aid policies.

The third chapter by Ti-han Chang and Lyn Collie looks at New Zealand's political responses to climate change and migration in the Pacific. This chapter examines the history of immigration in New Zealand from the British colonial period to contemporary Pacific migrants. The chapter draws attention to census data, revealing more about the social outcomes and lived experiences of Pacific migrants in New Zealand. Using the experiences of I-Kiribati, Chang and Collie argue that I-Kiribati migrants frequently encounter social, cultural, and economic discrimination. The authors review the current Pacific migration schemes offered by the New Zealand government and assess their suitability in managing climate-displaced migration. Continuing the theme of migration, Betty Barkha follows this chapter by exploring the issues surrounding agency and action. Barkha undertakes a critical discourse analysis to closely examine the extent to which gender has been integrated in existing frameworks on climate change-induced human mobility in Fiji.

The exercise in the discourses of migrant interaction forms a sense of entanglement. It is a type of research that concerns itself with linkages and flows of peoples, cultures, and commodities. Pacific island identity has an entangled understanding of regional connectivity due to linguistic and historical periods of migration. The next chapter by Fanny Caron explores indigenous identity in the face of climate change through the works of two young Paiwan authors in Taiwan. Caron-Scarulli argues that, by focussing on climate change, the authors contribute to a literature that opens a path to indigenous imaginary and subsequent indigenous identity. Storytelling and Taiwan are continued in the following chapter by Dean Karalekas and Tobie Openshaw, who argue that the epistemology of Traditional Ecological Knowledge (TEK), which has developed over

thousands of years, directly links belief systems to experiential relationships with the natural world and are retold via myths and other narratives. Karalekas and Openshaw draw on the myth-making systems of the Bunun nation in Taiwan and look at how these systems have contributed to a worldview that puts the sentient experience in balance with the ecosystem. Often this worldview is articulated in literary expression as seen in Caron-Scarulli's chapter. The influences of colonial layering interact in how this system of knowledge is disseminated. At first, the following chapter may seem an anomaly; It does not exactly 'fit' the criteria of Pacific indigenous worldviews. Yet, its contribution rests in how the environment plays a pivotal role in indigenous literary landscapes. For Zakia Firdaus and Amar Woyal, the experience of Native American peoples' sense of identity and their connection to the land has led to a conscious effort by Native American nations to express their concerns about environmental degradation and sustainability through engagement with ecocriticism and issues surrounding protection and preservation of natural resources. Firdaus and Woyal's chapter offers a useful opening for a wider comparison to the Pacific Islander experience.

The focus on indigenous Pacific island experience has often led to an image of ethnic homogeneity. The chapter by Kate Martin that follows undertakes an analysis of the experience of Indo-Fijians who share no linguistic, cultural, or historical links to the wider Austronesian-speaking Pacific but offer TEK based on their own lived experience.

The final chapter is more explicit and fosters an integrated reflection on policy. By documenting the similarities and differences between the climate policies of Australia and New Zealand, Aarushi and Pavan Kumar provide not only an important analysis of the strategic implications of climate change policy, but also critically reflect on both governments' responses to climate change incidents.

The discussion of the climate's impact on Pacific Island communities warrants greater attention, not least because no two experiences are the same. Papua New Guinea is very different from Tuvalu. GDP wealth is higher in Hawaii than it is in the Kiribati islands. It is clear that a one-size-fits-all approach does not apply in these circumstances. Instead, what is needed is a set of policies that incorporates traditional knowledge as a critical indicator in its assessment. Current climate change policy recommendations, such as those proffered by the IPCC, often take a 'big picture' approach to how climate change is impacting the eco-systems of the Pacific. Yet, this is just one of many 'big pictures'.

It is a narrow, monocultural way of understanding change. The seas, for example, support the livelihoods of numerous peoples with diverse cultural practices. The best protection against sea-level rise is to engage with a diversity of understandings and responses to this change. Traditional knowledge delivers depth and is an indicator of place-specific cultural contexts. Policy needs to prioritise affected communities by being more culturally inclusive. Co-existence of plurality of knowledges will improve our understanding of complex systems and enable baseline monitoring systems to work effectively in managing human resilience to climate change.

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The Next Wave of Climate Refugees? Building a Clear Narrative Concerning Levels of Understanding and Agency in Communities Across the Pacific Who Are Most at Risk from the Effects of the Climate Emergency

Bob Walley

This chapter identifies key challenges facing Pacific Island Countries (PICs) caused by the serious impacts of the current climate emergency. Looking at the literature and existing responses to this issue, this chapter will explore issues and debates surrounding the displacement of people from these islands, identifying problems associated with understanding the affected communities' perspectives and their sense of agency and empowerment to do anything about this intensifying threat. This enquiry will focus mainly on Kiribati, a sovereign island nation which gained independence from the United Kingdom in 1979. Kiribati comprises

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of one raised coral island and 32 low-lying atolls, making it increasingly susceptible to climatic impacts such as extreme weather and ocean level rise. Arguments made will highlight the importance of including indigenous perspectives, knowledge and experience in any future mitigation and adaptation initiatives. The responsibility and ethical obligation of large Greenhouse Gas emitting countries, especially those with colonial ties to these territories, will be highlighted. The chapter concludes with recommendations for related future research and project work going forwards.

RATIONALE

United Nations Intergovernmental Panel on Climate Change (IPCC) reports present unprecedented threats that PICs face from the escalating climate emergency, including rising sea levels, drought and an increase in strength and frequency of deadly storms (IPCC, 2019a). Pacific island communities are particularly vulnerable to, and suffering from, the adverse effects of climate change related extreme weather effects like coastal erosion and water shortages. The predicted rise in sea levels, altered precipitation patterns, higher temperatures, acidification of the ocean, loss of coastal infra-structure and land, more intense cyclones and droughts, salinisation and crop failure (SPREP, 2015) will exacerbate these risks in the coming decades. This jeopardises the livelihoods of Pacific Island peoples, most of whom are engaged in agriculture, forestry and fishing and are thus dependent on natural resources, whilst also having a particularly detrimental impact on tourism (IPCC, 2019a). Having a ‘high ratio of shoreline to land, low elevation, settlement patterns concentrated in coastal areas and a narrow economic basis’ (Ferris et al., 2011) puts PICs at extremely high risk. The accelerating climate emergency threatens not only the coastal flora and fauna but their human community’s way of life, unique cultural practices and national identities.

THE SITUATION IN KIRIBATI

The Pacific is the least carbon producing human-populated area on earth (Kupferberg, 2021), with PICs being responsible for only an estimated 0.03% of total Green House Gas emissions (GHGe) (IPCC, 2001). Yet a 1.1-m sea-level rise is predicted by 2100 by conservative estimates (IPCC, 2019b) though research shows a 2-m rise is very possible with a 2 °C

scenario (Bamber et al., 2019). Even with just 1.1 m of sea-level rise, two-thirds of Kiribati, which has an average height above sea level of 1.8 m (COP23, 2017) could be underwater, with significant parts of its territories becoming uninhabitable. With two meters of sea-level rise, Kiribati would be mostly submerged (Ray, 2019). This makes the prospect of large groups of peoples on PICs being forcibly displaced and seeking to migrate an increasingly likely scenario. For almost a decade, the previous president of Kiribati sought to bring the desperate plight of the country before the international community, pressurising developed nations to take more radical measures at reducing GHGe (Kiribati Office of Climate Change, 2009; Ahmed, 2009). The severity of the IPCC's climate forecasts for many low-lying PICs like Kiribati has created the prospect of 'disappearing states' and prompted debates regarding possible 'statelessness' for many Pacific Islanders (McAdam, 2012). Islanders living on low-lying atolls in the South Pacific have been categorised as some of the world's first 'climate change refugees' (Burch, 2020). However, after initiating an 'experimental humanitarian visa' policy, Aotearoa New Zealand dropped the program because Pacific Islanders rejected it as they did not want to be labelled refugees or have to leave their homes (Ionesco, 2019; Manch, 2018; Dempster & Ober, 2020). This suggests the proud and deep-rooted values which Pacific Islanders hold over their ancestral lands. It's argued 'they prefer support for adaptation and mitigation for their continuing lives on ancestral land with refugee status as merely a last resort' (Robie, 2020; Burch, 2020). Therefore, the term 'climate refugee', which is in the very title of this chapter, should be considered carefully and conscientiously.

Only recently did the UN High Commission on Refugees acknowledge any legal basis for climate-related protections (Su, 2020; UNHCR, 2020; Beeler, 2018). Those at risk of imminent harm of losing their 'Right to Life' through climate emergencies can now seek asylum. However, the notion of climate refugee status can create 'a narrow and biased debate' (Ionesco, 2019; Farbotko & Lazarus, 2012). Determining and capturing the proper and most appropriate terminology for migrants of an environmental character is strenuous due to overlapping drivers of migration, such as economic, social and political factors which themselves 'affect migration' (UK Gov, 2011). But why is this terminology important? Besides being an essential element in forming and informing public discourse and opinion both globally and in sending and receiving countries, it is a crucial and invaluable component of drafting effective

policies and humanitarian responses on national and international levels (Kupferberg, 2021). Over the last decade, climate-related disasters have become the strongest driver of migration worldwide with an estimated 20 million people a year forced to leave their homes (Oxfam, 2019; Aburn & Wesselbaum, 2017). Whilst the term ‘environmental refugee’ is currently a highly controversial label, other varieties include climate migrants, ecomigrants, environmental migrants, climate change-induced migrants, ecological refugees, environmental refugees, climate change migrants and environmentally induced forced migrants (Gemenne, 2009). Recent waves of refugee movements in the Middle East, Africa and into Europe show the urgency and need for pre-emptive planning for any future large-scale migrations and movements of people, which are expected to only rise in the decades to come (Yates et al., 2021; Krajick, 2018).

RESPONSE POSSIBILITIES

There is broad agreement that effective responses to the climate emergency involve both mitigation and adaptation (IPCC, 2014), though the urgency of climate impacts in the Pacific region calls for radical policy interventions (Kupferberg, 2021). ‘Temaiku Land and Urban Development’ aims to increase the height of a 300-hectare area of swampy inhabitable land on Kiribati’s Temaiku Bight, transforming it into an urban development around two meters above predicted 2200 ocean levels (Watkin et al., 2019). The project is expected to take 30 years to complete with land reclamation alone estimated to cost US\$273 million (Walters, 2019), more than the entire annual GDP of Kiribati, which was US\$194 million in 2019 (World Bank, 2019). As neither of the project leaders, Aotearoa New Zealand or Kiribati, are able to fund the project in full, Kiribati is looking to the Green Climate Fund, a financial mechanism under the UNFCCC and the World Resources Institute’s ‘Adaptation Finance Accountability Initiative’ (Walters, 2019). Nothing like this has ever been successfully carried out. But if successful, the project would house an approximate 35,000 people (Watkin et al., 2019) by 2050, or about a third of Kiribati’s current population. However, the population of Kiribati is projected to be more than 239,000 by 2100 (UN, 2019), which puts the long-term viability of this adaptation strategy into

serious question (Kupferberg, 2021). Considering current UN population projections, Kiribati would need just under seven Temaiku projects to be able to adapt successfully.

Cross-border planned relocation has almost exclusively happened in the Pacific (Kupferberg, 2021). In Kiribati, the 2014 ‘Migration With Dignity’ (MWD) initiative by former Kiribati president Anote Tong planned to gradually relocate people to Fiji (Pashley, 2016). Two years later Tong was replaced by Taneti Maamau and this plan was scrapped, replaced with a faith-based approach focusing on economic growth, adaptation, mitigation and national pride being adopted (Walker, 2017). Kiribati’s status as one of the poorest in the region (Webb, 2020) combined with the amount of investment needed to sufficiently adapt and secure a safe and dignified life for the entire PIC’s population only contributes to the strategy’s limitations (Kupferberg, 2021). Whilst president Maamau was elected on his conservative vision for Kiribati involving the Christian faith, he does acknowledge the long-term threat of climate change (Walker, 2017). The land purchased in Fiji for MWD is currently farmland, but Maamau has tried to encourage movement out of Kiribati’s highly dense and populated capital, where poverty is widespread (Sinha, 2020). However, water inundation and salinisation of the soil are destroying water sources and making land unsuitable for agricultural production (Ferris et al., 2011), disrupting farmers’ livelihoods and jeopardising potential financial incentives from the government’s economic policy. With ‘dark biblical irony’ (Kupferberg, 2021), Maamau argues that Kiribati’s citizens must ‘try to isolate [themselves] from the belief that Kiribati will be drowned [as] the ultimate decision is God’s’ (Walker, 2017). So whilst the Kiribati president doesn’t claim to deny climate change, his religious stance on the impacts of the climate emergency on the country’s survival is concerning (Kupferberg, 2021). Furthermore, some citizens of Kiribati (I-Kiribati) and Tuvaluans believe reports of climate change risks are exaggerated or unreliable and God will protect their homelands (Yates et al., 2021; Siose, 2017; Thompson, 2015; Roman, 2013; Gillard & Dyson, 2012).

Nevertheless, people have begun to migrate from their island homes to Aotearoa New Zealand, Australia, the United States or Fiji, expecting better education and employment opportunities, improved health and quality housing. However, many are then shocked by the realities of life abroad (Yates et al., 2021). I-Kiribati, Marshallese and Tuvaluans encountered many challenges and barriers to resettlement, which have left

them unemployed, underemployed, in inadequate housing or unable to access education and healthcare services. Resettlement has also often been hindered by strict visa requirements, non-transferral of education credits, workplace exploitation, costly housing, unfamiliar foods; cultural misunderstandings, discomfort speaking English or racism (McClain et al., 2020; Maekawa et al., 2019; McClain et al., 2019; Drinkall et al., 2019; Emont & Anandarajah, 2017; Siose, 2017; Thompson, 2015; Malua, 2014; Roman, 2013; Shen & Binns, 2012; Gillard & Dyson, 2012; Shen & Gemenne, 2011; Gemenne, 2010). Xenophobia especially can ‘thwart political action aimed at increasing responsibility sharing and better coordination’, particularly in large-scale scenarios (Miller, 2018). Pacific Islanders who relocated to other PICs have often been met by hostile environments in their new destinations, which has been due in part to the difficulty in ensuring land entitlements (Connell, 2007).

Additionally, in Aotearoa New Zealand, some migrants are saddened that their lifestyles are less communal than in their homelands, with less-frequent gatherings, weaker community-based culture and closed-off housing where they feel separated from their neighbours (Yates et al., 2021; Siose 2017; Thompson, 2015; Gillard & Dyson, 2012; Gemenne, 2010). Emphasis on rigid time schedules, monetization and individualism experienced in Pacific Rim countries have proven disruptive for those accustomed to the values of collectivism, respect and self-sufficiency which are common in Kiribati, Tuvalu and the Republic of the Marshall Islands (Yates et al., 2021; McClain et al., 2020; Drinkall et al., 2019; Siose, 2017; Thompson, 2015; Roman, 2013; Locke, 2009). Even the most carefully planned relocation can carry such significant psychosocial and cultural costs that many people only consider it a last resort (Initiative, 2015). Climate-related migration clearly has important implications for human well-being, including many mental health challenges (Yates et al., 2021; Schwerdtle et al., 2018). From a psychological standpoint, migration is not a single event with a definitive endpoint but a continual process with evolving impacts (Shultz et al., 2019). Trauma from disastrous extreme weather events could combine with anguish from the ‘intolerable loss’ (Handmer & Nalau, 2019) of intergenerational practices, livelihoods and connections to place (Shultz et al., 2019). Those experiences of loss can also depend upon how voluntary the migration and the ability to continue socio-cultural practices in new locations (Handmer & Nalau, 2019; Torres & Casey, 2017). More disruptive movements may give rise to chronic stress, anxiety and depression, especially if returning home is

impossible (Shultz et al., 2019; Manning & Clayton, 2018; Torres & Casey, 2017; McIver et al., 2016; Britton & Howden-Chapman, 2011).

For those who stay, different stressors on ways of life and levels of resilience are at play. Food is an integral component of cultural celebrations and social cohesion, but across the Pacific climate extremes are altering the availability of particular foods used for celebrations and ceremonies (Savage et al., 2021). Furthermore, the threat of future climate extremes is described as a deterrent to invest the significant time and labour required for food growing and provides difficulties in the preparation of traditional dishes (Savage et al., 2021). These social trends have been driving the nutrition transition away from traditional, locally grown foods to a diet high in energy-dense, nutrient-poor imported foods (Savage et al., 2020; Charlton et al., 2016; James, 2016; Martyn et al., 2015). Locally grown produce, especially in urban areas, is increasingly replaced by a limited array of imported foods such as rice, bread, instant noodles and tinned fish and meat (Savage et al., 2020; James, 2016; Martyn et al., 2015). Furthermore, in vulnerable areas increased reliance on, and the expectation of, food aid has also contributed to the erosion of traditional strategies for resilience to climate extremes, such as food preservation and food stockpiling, and overall waning of food growing in areas with greater access to store-bought foods (Savage et al., 2021; Jackson, 2019; Wentworth, 2019; Campbell, 2015). Pacific climate extremes have therefore constrained the agency of people to make beneficial food choices (Savage et al., 2021). The weight of these cumulative stressors can lead to physical health issues and distress, anxiety or depression from feeling unable to support the family and wider community (Yates et al., 2021).

CONCLUSION

Despite strong ties to the land, Pacific Island people have a long history of migration, with the ocean acting as a highway rather than a barrier to mobility (Hau'ofa, 1993). More recently, resettlements in the Pacific suffered multiple problems and controversies and it's almost impossible to find a best practice example (Kupferberg, 2021), particularly for the present context. The years following World War II saw three significant international relocations of Pacific Island communities instigated by British colonial rule in what were deemed overcrowded islands on the Gilbert and Ellice Islands, now Kiribati and Tuvalu, respectively (Connell,

2012), all of which proved disastrous. As ex-colonial Western powers have played such a major part in past changes imposed on Pacific islands, and are responsible for the vast amount of GHGe now threatening the islands' very existence, there is a strong argument that these colonial powers now hold an obligation for future support and provision. The importance of not making the same mistakes or imposing uninformed top-down solutions is key to providing the right kind of support in the future. The discontent with newcomers in host community's observable in a wide range of Pacific resettlement schemes is something which must be addressed in any future relocation policies and projects (Kupferberg, 2021). Strengthening and nurturing regional solidarity is crucial in avoiding hostility or conflict. Meaning public opinion needs to be sought so relocations avoid the pitfall of being top-down elite projects supported by international organisations, academics and current political administrations with little base in reality and local attitudes (Kupferberg, 2021). 'Too often climate change adaptation efforts use a top-down approach and standardised models, which leaves the people facing environmental degradation with little say in the actual decision-making process' (Bertana, 2017).

Indigenous knowledge, narratives and values have traditionally been excluded in climate change scholarship (Yates et al., 2021), which is often biased towards Eurocentric research paradigms (Jones, 2019). These paradigms tend to prioritise precisely defined and empirically measured research. Such inflexibility can clash with indigenous knowledge (Alexander et al., 2011), which is 'gained through trans-generational experiences, observations, and transmission' (United Nations Environment Programme, 2021). Also, Eurocentric research tends to construct reality from a purely European and ex-colonial worldview, assuming associated values, such as anthropocentrism and individualism. These are the same values largely driving the climate crisis (Jones, 2019; Naidoo, 1996; Lala, 2015). Consequently, Eurocentrism has minimised the role of indigenous values in climate research, reducing space for Indigenous voices in decision-making (Jones, 2019) which needs to change. Encouragingly, there is growing recognition of the value of indigenous knowledge in environmental protection (Alexander et al., 2011; Etchart, 2017; Green & Raygorodetsky, 2010) and there is a push for more evidence-informed climate-related migration policies (McMichael et al., 2019; International Organisation for Migration, 2019; Wiegel et al., 2019).

Going forwards, the future of Kiribati, Tuvalu, the Republic of the Marshall Islands and other low-lying PICs is uncertain. They need to prepare for the worst, whilst preserving their dignity in the process (Kupferberg, 2021). Adaptation projects, mitigation, disaster risk reduction, temporary or permanent migration, humanitarian visas and relocation are all partial solutions to a complex problem. They cannot exist in isolation but should be viewed and approached as complimentary. As several commentators and researchers have highlighted, agreement between governments is far from enough. The involvement of local communities in concerned countries is essential.

Climate change ‘adaptation in a local context requires processes to address social and cultural issues as well as climatic ones, enabling communities to deal better with environmental uncertainty in a way that suits them, without losing the value systems and practices that underpin their way of life. In short, ‘adaptation’ should be about adjusting to both climate and social change’ (Warrick, 2012).

People’s ties to their homelands shape their experiences of migration and climate change. For many Pacific cultures, land—aba (Kiribati), fenua (Tuvaluan) and āne (Marshallese) cannot be separated from culture and identity (Yates et al., 2021). Land connects past, present and future peoples. It is a marker of social standing which cannot be sold and is passed down through the generations (Hermann & Kempf, 2017; McClain et al., 2020; Thompson, 2015; Shen & Binns, 2012). There is a strong argument concerning the ethical obligation for ex-colonial and major GHGe countries to take responsibility for co-creating effective responses and actions. Traditional forms of development assistance, such as simply giving aid to poor country governments, are inadequate to the task (Rieffel, 2018; Betts & Collier, 2018).

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