PERSPECTIVE OPEN

Climate justice through climate finance? Lessons from Oceania

Edward A. Morgan [1,2]✉ and Kirstie Petrou [1,2]

Pacific Island Countries (PICs) are at the forefront of climate change and the movement for climate justice. However, in Western discourse, the PICs are often portrayed as small and isolated, which reinforces the idea that climate change impacts are primarily happening in places remote from wealthier nations. This, in turn, affects political relations and attitudes to climate action and justice. By contrast, Pacific world views focus on themes of genuine connection and kinship that are enduring and reciprocal, and more than simple political statements about 'Pacific family'. Achieving climate justice in Oceania requires that we truly engage with Pacific understandings of family and connection. Here, we consider how these themes can be incorporated into carbon finance initiatives, which are key tools for achieving climate justice. In so doing, we examine how justice issues around carbon finance, including (1) accessibility and resources; (2) failure to understand ecological and social connections; and (3) loss of rights, privatisation, and enclosure of commons, could benefit from this approach. We conclude that learning from Pacific informed understandings of kin and connection would strengthen climate justice in Oceania and beyond, and enhance the tools employed to achieve it.

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INTRODUCTION

The papers in this special issue are founded on, and argue for, the principle that climate action requires climate justice to be both sustainable and genuine. However, they also demonstrate that climate justice is complex and that we are far from fully understanding or implementing it. A key theme running through the papers, and the workshops that were conducted to help develop them, is the idea of connection. Climate change is not something that happens 'over there'; rather, it impacts us all. In this paper, which is intended as a reflection on the special issue, we expand upon this theme of connection, to consider what climate action and justice might look like if current Western approaches to climate action incorporated Pacific understandings of kinship and connection. We begin by defining alternative learnings from the Pacific before discussing carbon finance in the context of climate justice and subsequently reconfiguring this example to reflect an understanding of kinship and connection. We define climate justice as encompassing both a human rights element that includes 'safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate change and its resolution equitably and fairly'[1] and a moral element that '(1) identifies the various moral concerns that are either causing, caused by, or otherwise raised by climate change and (2) organises and manifests in responses to climate change, attempting to address those injustices'[2]. Together, these definitions privilege ideas of kinship, responsibility and connection that we argue should underpin climate action and justice in the region.

CONNECTION, KINSHIP AND CLIMATE ACTION

From the Western perspective, the Pacific Island Countries (PICs) are generally depicted as tiny and remote. They are seen as 'islands in a far sea'[3], mere blips on the world map and divided from the rest of the world by vast oceans. As Hau'ofa[3] argued roughly three decades ago, this derogatory depiction of the PICs as peripheral land masses entirely dependent on the largesse of wealthier nations and too small to matter in the grand scheme of things, is vital in perpetuating relationships of dominance and subordination, and therefore injustice. Such relationships and views, founded during the colonial era, have facilitated centuries of unequal ecological exchanges and led to environmental injustices that have contributed to and are being exacerbated by climate change[4]. This has resulted in the increased frequency and severity of extreme weather events in the PICs[5], which already include the most natural disaster-prone countries in the world[6]. Yet, while the sudden and severe devastation of tropical cyclones make easy fodder for sensationalist news media, the PICs are also subjected to the 'slow violence'[7] of climate change, such as sea-level rise, and impacts from ocean acidification (including the loss of coral reefs)[5]. This slow violence that arises from, for example, political inaction over carbon emissions in distant nations is 'incremental and accretive, its calamitous repercussions playing out across a range of temporal scales'[7], and as such, it is 'decoupled from its original causes by the workings of time'[7]. This makes it difficult to attribute blame and draw clear conclusions about cause and effect. Slow violence takes place 'out of sight' and is wrought on people and places whose stories and existence 'do not count'[8]. These climate impacts stem from policies and practices that are temporally and spatially distant from the PICs, whose own carbon emissions are among the lowest in the world (less than 0.03% of the global total[9] and 1.4 tonnes per person[10]). This highlights the climate injustice inherent in a lack of action. The depiction of PICs as tiny and marginal ensures that their stories of climate change and calls for climate action are discounted as unimportant and perpetuates processes leading to climate injustice. In fact, it facilitates what Mbembe (2003) has described as 'necropolitics', whereby decisions are made—either purposely or through inaction—that rationalise the sacrifice of certain populations: a politics of 'let die' so that others may prosper[11]. This plays out in the PICs every time Australia and other global economic powers refuse to take action on climate change. In some discourses, the Pacific Islands are already lost.

[1]Policy Innovation Hub, Griffith University, South Bank Campus, Brisbane, QLD, Australia. [2]Climate Action Beacon, Griffith University, Gold Coast Campus, Southport, QLD, Australia. ✉email: ed.morgan@griffith.edu.au

What then, if other countries, including Australia, actively took a different approach and, as Hau'ofa (1994) suggests[3], began to view the PICs as a 'sea of islands', in which oceans are spaces of connection rather than rupture, and if the deep ties we have to one another—through colonialism and neo-colonialism, aid and trade, kith and kin—were properly recognised? The PICs themselves have promoted this view, adopting the concept of a Blue Pacific at the 2017 Pacific Islands Forum (PIF) leaders' meeting, which emphasises the need for regional action on climate change alongside greater autonomy for the PICs. In contrast, Australia's discursive agenda, which is focused on the perceived geopolitical threat of China, instead began referring to 'our Pacific family' in 2018. Drawing upon ideas of equality and kinship and acknowledging the potential for intrafamilial squabbles, then Prime Minister Scott Morrison and his political successors deployed this idea of family to generate feelings of warmth with the PICs. Although part of the aim was to exclude China, which was said to lack deep connections to the Pacific and whose interest in the Pacific was described as merely 'transactional'. However, as Wallis[12] observes, familial roles come with certain obligations in the Pacific. Australia's glib use of the term 'family' has thus far failed to recognise that 'kinship comes with important expectations, values and responsibilities. In the Pacific, relatives can make serious requests of each other, and it's a major cultural faux pas to say no'[13]. Australia's repeated lack of serious climate action represents a significant cultural transgression and demonstrates improper respect for people referred to as kin. Consequently, Australia's supposedly familial relationship to the Pacific has been cast in far darker terms: Palau's national climate change coordinator, Xavier Matsutaro, described the relationship as 'dysfunctional', noting that 'it's like you're in a relationship and you get abused by your spouse, but at the same time they feed you and clothe you'[14]. If Australia's very limited climate action continues, this sense of an abusive relationship could worsen. The violence may escalate to murder as environments and the populations they support slowly die. Since its per capita carbon emissions are the highest in the world (15.3 tonnes per person per year[15]), Australia has a moral duty to take action. If one moves beyond the fallacy of impermeable national boundaries and begins to think in terms of connections—and a 'sea of islands'—it becomes clear that the slow violence of climate injustice in the Pacific, and other similarly 'peripheral' regions, impacts us all.

Importantly, the PICs are far from passive victims of climate injustice. Pacific Island nations and their peoples have long engaged in multiple forms of activism and adaptation to counter the impacts of climate change and continue to do so. At the local level, Pacific communities have utilised centuries of Indigenous knowledge to adapt to climate change in novel ways, including through food preservation, planting techniques and monitoring plant and animal behaviour to predict climate and weather changes[16]. In the political arena, leaders have called for reduced fossil fuel dependency since the 1990s. At global climate negotiations, the PICs have joined existing coalition blocs and, frustrated by climate inaction, gone on to create their own regional groupings, such as the Pacific Small Island Developing States, to amplify united Pacific voices[17,18]. The PICs led the inclusion of a 1.5 °C goal within the Paris Agreement, highlighting the impacts they are already seeing and would face at 2 °C of warming. At the same time, grassroots climate activists, such as the Pacific Climate Warriors, challenge the 'drowning islands' narrative with their war cry, 'We are not drowning, we are fighting'. Notably, their peaceful protests extend beyond the Pacific, reflecting the connection between Australia's emissions and their fight[19,20]. The 2014 blockade of Newcastle's (New South Wales) coal port demonstrated, in visually spectacular ways, that climate change and its problems are not restricted to the 'isolated' land masses of the PICs. These problems unequally impact the Pacific—and other so-called 'marginal' regions of the world—and 'can no longer be contained within its islands'[20]. Through their actions, the Warriors have taken on the responsibility to educate industrialised nations about the impacts of climate change and the Pacific's response to it. Thus, they aim to subvert the dominant discourse of PICs as small, marginal and in need of assistance, but rather emphasise that they are at the forefront of climate change impacts and we can learn from them.

Common to many of these actions, whether in the global political arena or through grassroots activism, has been the call to recognise the importance of kinship and connection[16,19,21] which are fundamental to cultures across the Pacific, and how they respond to challenges (including most recently COVID-19)[21–24]. We argue that greater recognition of this kinship and connection is integral as we seek climate justice through Western-dominated institutions and mechanisms, such as climate finance. As non-Pacific authors, it is not our intention to co-opt Pacific knowledge. Rather, we believe that respectfully listening to and learning from these ideas can help us address the deep climate injustice embedded in Western-dominated climate mitigation and adaptation approaches. In the next section, we examine carbon finance schemes to interrogate how effectively current tools recognise these connections and to what extent they acknowledge or incorporate Pacific Islands' expertise and world views. In so doing, we consider how we might improve these potential climate justice initiatives if we begin from an understanding of an interconnected Oceania and more explicitly consider the morality implicit in kinship and connection.

EXAMPLE: CARBON FINANCE, REDD+, BLUE CARBON AND CARBON CREDITS

Carbon finance is a potentially powerful tool for climate action and climate justice. Government-led and voluntary REDD+ (Reducing Emissions from Deforestation and forest Degradation, and foster conservation, sustainable management of forests, and enhancement of forest carbon stocks(+)) carbon payments[25–27] were initially designed as a mechanism for wealthier industrialised countries to pay highly forested countries in the Global South for preserving and sustainably managing their forests[28]. It has led to government-based and market-based voluntary initiatives that create credits for carbon storage ecosystem services, which can be traded and used as offsets for carbon emissions for governments, businesses, and individuals[26,29]. Emerging 'Blue Carbon' schemes are based on the same principle but focused on mangroves, sea grass, and other coastal vegetation[30,31]. The potential for these carbon markets is vast. The voluntary carbon market is predicted to be worth $50 billion in 2030[32], but it remains unclear how effectively these will reduce carbon emissions[33,34] or whom the true beneficiaries will be[34].

REDD+ has significant potential for the highly forested Melanesian countries, and some PICs, notably Papua New Guinea (PNG), have led its development. The emerging 'Blue Carbon' markets significantly expand the potential application of carbon finance in Oceania, as almost all PICs have significant coastal vegetation. However, there have been strong critiques of these carbon payment schemes[35–39], which reflects both justice issues and a lack of understanding of the reciprocity and connection underpinning Pacific relationships. PNG recently introduced a moratorium on REDD+ projects due to concerns about local communities' exploitation and whether the PNG government truly benefited from the schemes.

Here, we highlight three inter-related issues with carbon payment schemes: (1) accessibility and resources, including the imposition of Western rules and concepts of markets; (2) failure to understand ecological and social connections and the misuse of the credits for avoidable emissions offsets; and (3) loss of rights, privatisation, enclosure of commons and colonisation of land. We reflect on some of these issues by applying Pacific perspectives to

climate justice that privilege ideas of kinship, connection and the moral obligations these relationships entail.

Accessibility and resources

Concerns about the complexity and requirements of carbon payment schemes have been widely acknowledged[29,40–43], including by Ledger and Klöck in this special issue. On the one hand, strong monitoring, reporting and verification is necessary for these schemes to have integrity and ensure carbon is stored[42]. On the other hand, these requirements—and related stringent accounting stipulations—limit funding accessibility[40–42] and place significant burdens on communities. These issues are often presented as governance challenges that can be ameliorated by improving participation or, more broadly, legitimacy[42,44]. However, carbon finance governance rules are often determined by Western rule-makers who define legitimacy according to their cultural norms and worldviews[45]; although, there is some evidence for improved participation of the Global South in rulemaking[46]. Consequently, these externally imposed rules can be inefficient, inappropriate and frustrating or seen as stemming from a lack of trust in local people[47,48] Key questions also remain on exactly what improved participation looks like on the ground and how best to engage communities[49–51]; however, we argue that incorporating principles of mutual respect—key to familial relationships—will go a long way to improving engagement and empowerment.

Another key means of improving the legitimacy of these schemes is to ensure community needs are met, that communities are involved in their design and running and that the schemes involve community members and their local knowledge and skills. In short, the schemes must not be something that is 'done to people'[52,53]; rather, they must foster and recognise the interrelatedness between seemingly distant places. Here, responsibly, carefully and ethically harnessing existing connections to land and resources and mapping onto existing connections, understandings and governance approaches can be valuable, as highlighted by Morrison et al in this issue, as well as elsewhere[54–56]. There is considerable scope to learn from the Pacific Islands' approaches to governance and rulemaking through employing Talanoa and similar processes to support understanding and participation, as discussed by Park et al in this issue. Learning from these locally-based approaches and integrating them into carbon finance schemes might address these governance concerns[39,57–59], although we must be careful not to appropriate these ideas or treat them as a panacea applicable to all contexts. Learning from a Pacific Islands perspective and privileging principles of reciprocity can encourage us to be flexible in planning and governance and facilitate innovative ways of approaching and evaluating management at a landscape scale[29,60].

Ecological and social connections and use of carbon credits

A second key justice issue is how carbon credits are created and used. Carbon payment schemes treat carbon as a discrete service with other environmental and socio-cultural concerns externalised and addressed through standards and safeguards[29]. These are optional add-ons in the voluntary carbon market that can be used to create 'premium' credits—although the relatively low carbon price and high number of credits in markets make these less profitable and harder to sell. However, this approach places the costs of implementation on land managers and stewards—often local communities—who must change practices to fit carbon accounting requirements[42,61,62]. These approaches may deny or limit other uses of natural resources and ecosystem services, effectively fragmenting rather than sustaining connections between people, places and action for climate justice.

At the same time, carbon credits are often only used by people in wealthier industrialised countries to 'offset' emissions that could otherwise be avoided[40]. For example, they can be used for flights or other travel with a relatively small payment. Thus, polluting behaviours continue, but we get to feel good about 'helping' distant others even as our actions simultaneously exacerbate climate injustice. To counter this, there is a push for credits only to be used for 'hard to abate' emissions, as highlighted by the UN[63]. Although the schemes themselves often have limited control over what the credits might be used for, they must be aware of the imbalance of impacts and requirements and the risk of not supporting genuine climate action by maintaining the misperception that climate change is disconnected from actions and climate action can be delivered without real behavioural change.

To address some of these issues, schemes need a more holistic understanding of the interconnectedness of ecological integrity, benefits from natural resources and the socio-cultural context[29,64] reflected in arguments for climate-smart landscapes[65,66]. A Pacific Islands perspective that sees land and ocean as connected—reflected in the Ridge-to-reef perspectives[67–69]—and both as intimately connected to people and culture naturally encourages these landscape perspectives[21].

Rights, privatisation and colonisation

The final justice issue raises doubts about whether these market mechanisms can ever be fair and equitable if they impose a capitalist and neoliberal market on nature and people, exacerbating dispossession of land, privatisation and enclosure of the commons and act only as 'green grabs' for the wealthy and powerful[35–37,70,71]. A clear answer to this critique is difficult, and there is a risk that such market mechanisms may always be unjust and thus alternatives must be available. Although support for market mechanisms is high within the globalised neoliberal market economy, it is not universal. In many PICs, cash economies exist alongside the gift economy and other non-cash economies[72,73], although the power of the former is ever-increasing and impossible to ignore[73]. Pragmatically, it must also be acknowledged that markets are not going anywhere. We suggest that these market-based mechanisms are political and politicised, negotiated between countries of unequal power and influenced by stakeholders and vested interests with differing access and resources. Given this, perhaps we should not expect markets to bring justice but aim to reduce injustice in markets by recognising our ongoing connections to distant others and acting accordingly.

There may be lessons from the Pacific and a more connected regional approach. Australia, and others, could support Pacific nations in ensuring that these mechanisms benefit the people who own and manage these landscapes. This could be included in international negotiations, as concerns have been raised that the market mechanisms agreed under the Paris Agreement and finalised at the latest Conference of the Parties (COP27) are insufficient in supporting rights. These might have been strengthened with the backing of other countries. Additionally, Australia could assist with innovative, landscape-based, locally-led Pacific approaches to these schemes. In particular, if the aim is to base a regional carbon credit scheme on Australia's current scheme, then there are opportunities to ensure better integrity beyond the transparency issues the recent review of the Australian mechanism highlighted[74]. Part of this could be recognising the ongoing slow violence wrought by the Australian coal industry on our nearest neighbours and ensuring that carbon credits are used responsibly and not simply to offset coal power or native forest logging, both of which can be relatively easily avoided, in a rush to net zero.

Ultimately, a justice perspective on these schemes highlights the need for care and attention and learning as they roll out, despite the 'climate emergency' and potential benefits such

schemes could bring. Australia, and others, could support a Pacific-informed approach to these schemes based on climate justice and benefit from harnessing the opportunities they present if they are willing to act as members of a family and uphold the moral obligations this entails.

DISCUSSION AND CONCLUSION

In January 2020, as Australia's eastern seaboard choked on smoke from the worst bushfires in history, communities in PNG and Vanuatu were quick to respond. Volunteers in both countries pushed wheelbarrows down the streets, collecting cash donations for Australian communities decimated by the fires. This act was touching, if not a little baffling, from the Australian perspective, given the limited financial resources available to Pacific communities. Yet viewed from the Pacific Islands perspective, where social relations are built upon reciprocity and exchange and kin ties are reinforced or ruined by actions or the lack thereof, the donations of PNG and Vanuatu made perfect sense. Australian communities were in need, and refusing assistance was unthinkable and would deny the family relationship between our countries. As one PNG volunteer, Giro Imbo, explained:

> 'It's one way of telling people in times of disaster that we are with them […] We say Australia is our 'Momma Country' […] Most of us benefit from Australian aid which builds health centres and hospitals, that's why we took this initiative so that we could at least do something at the community level.'[75]

In Vanuatu, Emma Mesao echoed these sentiments: 'If there's a disaster in Vanuatu, Australia helps … so we're here to help'[75]. The question should not be 'why would they help?' but rather 'how could they not?' Australia may act as the hormonal teenager of the family, oscillating between the desire to be both a part of and apart from the PICs, but for better or worse, we are kin whose histories and futures are intricately entwined. Yet all too often, Australia's actions, and inactions, do not honour this relationship.

Of course, Australia is not the only, nor even the most important, state actor in the Pacific. The US has increasingly pivoted towards the Pacific since the Obama administration and, as noted earlier for Australia, has often prioritised countering China's influence in the region[76]. The importance of kinship and connection for climate justice discussed here in the Australian context can be extended to any and all actors in the region—treating the Pacific as equal members of a family, rather than a strategic arena for action or simply a place to extend influence into, will produce better outcomes for climate justice, and thus better climate action, in turn, building trust and making partnerships/alliances more effective.

Using the example of carbon finance, we have illustrated one way this Pacific informed perspective might support climate justice. Learning from and respecting the Pacific Islands and their knowledge and traditions could help make carbon finance governance fairer. Pacific ideas of connection between land and sea and between country and people are arguably exactly the holistic approaches these schemes need and are slowly moving towards—they certainly influenced the proposal for a different approach put forward by one of the authors[29]. Finally, understanding our connections to the Pacific and no longer seeing them as small and peripheral but directly connected to us all may encourage wealthier, more powerful countries to support innovative approaches to addressing the injustice of these colonial and neoliberal mechanisms.

This is not only about justice but about action. Justice, in whatever way we might achieve it, is essential if these mechanisms are to work for climate action. If they are inaccessible or unmanageable, or if they damage communities or landscapes, these same communities may understandably avoid or renege on them. If carbon finance and other mechanisms become simply and solely investments for the wealthy to offset emissions that they might otherwise avoid, we risk hitting net zero but seeing the Keeling curve of carbon dioxide levels in the atmosphere continue to rise, undermining faith in all climate action. A lack of justice for communities (resource owners and stewards) and from a functional perspective of reducing carbon will undermine confidence in carbon credits and other payments for ecosystem services. Justice is a pragmatic requirement for success as much as an ethical and moral one. Climate change does not respect political boundaries, nor should our quest for climate justice. If we continue to participate in the slow violence that results from climate inaction and a lack of engagement with those most impacted by climate change, the 'let die' necropolitics of sacrificing seemingly remote locations—whether the islands of the Pacific or elsewhere—will come for us all. Instead, we must learn from others, from ideas of connection and kinship from the Pacific Islands and elsewhere to help us address climate injustice and pursue more urgent, fairer, and more effective climate action.

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REFERENCES

1. Mary Robinson Foundation - Climate Justice. *Incorporating Human Rights into Climate Action*. 1–8 https://www.mrfcj.org/pdf/2014-10-20-Incorporating-Human-Rights-into-Climate-Action.pdf (2014).
2. Saad, A. I. Climate Justice: Its Meanings, Its Struggles, and Its Prospects Under Liberal Democracy and Capitalism. (York University, 2017).
3. Hau'ofa, E. Our Sea of Islands. *Contemp. Pac.* **6**, 147–61 (1994).
4. O'Sullivan, A., Omukuti, J. & Ryder, S. S. Global Surpluses of Extraction and Slow Climate Violence: A Sociological Framework. *Sociol. Inq.* soin.12518 https://doi.org/10.1111/soin.12518 (2022).
5. Mycoo, M. et al. Small Islands. *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* 2043–2121 https://doi.org/10.1017/9781009325844.017.2043 (2022).
6. Day, S. J. et al. *World Risk Report 2019*. https://reliefweb.int/sites/reliefweb.int/files/resources/WorldRiskReport-2019_Online_english.pdf (2019).
7. Nixon, R. *Slow Violence and the Environmentalism of the Poor*. (Harvard University Press, 2011). https://doi.org/10.4159/harvard.9780674061194.
8. Davies, T. Slow violence and toxic geographies: 'Out of sight' to whom? *Environ. Plan. C Polit. Space* **40**, 409–427 (2022).
9. SPREP. Low Carbon Development shared the Pacific island way | Pacific Environment. https://www.sprep.org/news/low-carbon-development-shared-the-pacific-island-way (2019).
10. World Bank. CO_2 emissions (metric tons per capita) - Pacific island small states | Data. *World Bank Data* https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?locations=S2 (2020).
11. Mbembe, A. Necropolitics. *Public Cult* **15**, 11–40 (2003).
12. Wallis, J. Contradictions in Australia's Pacific Islands discourse. *Aust. J. Int. Aff.* **75**, 487–506 (2021).
13. Kabutaulaka, T. & Teaiwa, K. Climate, Coal, Kinship and Security in Australia-Pacific Relations. *Australian Institute of International Affairs* https://www.internationalaffairs.org.au/australianoutlook/climate-coal-kinship-and-security-in-australia-pacific-relations/ (2019).
14. Lyons, K. & Doherty, B. Australia relationship with Pacific on climate change 'dysfunctional' and 'abusive'. *The Guardian* (2018).
15. World Bank. CO_2 emissions (metric tons per capita) - Australia | Data. *World Bank Data* https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?locations=AU (2020).
16. McNamara, K. E. & Farbotko, C. Resisting a 'Doomed' Fate: an analysis of the Pacific Climate Warriors. *Aust. Geogr.* **48**, 17–26 (2017).
17. Carter, G. Establishing a Pacific Voice in the Climate Change Negotiations. in *The New Pacific Diplomacy* (eds. Fry, G. & Tarte, S.) (ANU Press, 2015). https://doi.org/10.22459/NPD.12.2015.17.
18. Carter, G. Pacific Island States and 30 Years of Global Climate Change Negotiations. in *Coalitions in the Climate Change Negotiations* (Routledge, 2020).
19. Enari, D. & Viliamu Jameson, L. Climate Justice: a Pacific Island perspective. *Aust. J. Hum. Rights* **27**, 149–160 (2021).

20. Fair, H. Their Sea of Islands? Pacific climate warriors, oceanic identities, and world enlargement. *Contemp. Pac.* **32**, 341–369 (2020).
21. Chao, S. & Enari, D. Decolonising climate change: a call for beyond-human imaginaries and knowledge generation. *ETropic Electron. J. Stud. Trop* **20**, 32–54 (2021).
22. Enari, D. & Fa'aea, A. M. E tumau le fa'avae ae fesuia'i faiga: Pasifika Resilience During COVID -19. *Oceania* **90**, 75–80 (2020).
23. Ratuva, S. 'Failed' or resilient subaltern communities?: Pacific indigenous social protection systems in a neoliberal world. *Pac. J. Rev*. **20**, 40–58.
24. Enari, D. & Faleolo, R. Pasifika collective well-being during the COVID-19 crisis: samoans and tongans in Brisbane. *J. Indig. Soc. Dev.* **9**, 110–126 (2020).
25. *Analysing REDD+: Challenges and choices*. (Center for International Forestry Research, 2012).
26. Pauly, M. & Tosteson, J. Safeguarding natural forests through the voluntary REDD+ scheme. *Nat. Plants* **8**, 861–866 (2022).
27. UNFCCC. Warsaw Framework for REDD-plus. https://unfccc.int/topics/land-use/resources/warsaw-framework-for-redd-plus.
28. Jean-Baptiste, R., Abate, R. S., Tigre, M. A., Ferreira, P. & Burns, W. Recent developments in climate justice dialogue. *Environ. Law Report. News Anal.* **47**, 11005–11017 (2017).
29. Morgan, E. A. et al. Capturing multiple forest ecosystem services for just benefit sharing: the basket of benefits approach. *Ecosyst. Serv.* **55**, 101421 (2022).
30. Bertram, C. et al. The blue carbon wealth of nations. *Nat. Clim. Change* **11**, 704–709 (2021).
31. The Blue Carbon Initiative. *The Blue Carbon Initiative* https://www.thebluecarboninitiative.org.
32. Blaufelder, C., Levy, C., Mannion, P. & Pinner, D. *Carbon credits: Scaling voluntary markets.* https://www.mckinsey.com/capabilities/sustainability/our-insights/a-blueprint-for-scaling-voluntary-carbon-markets-to-meet-the-climate-challenge (2021).
33. West, T. A. P., Börner, J., Sills, E. O. & Kontoleon, A. Overstated carbon emission reductions from voluntary REDD+ projects in the Brazilian Amazon. *Proc. Natl. Acad. Sci. USA* **117**, 24188–24194 (2020).
34. Guizar-Coutiño, A., Jones, J. P. G., Balmford, A., Carmenta, R. & Coomes, D. A. A global evaluation of the effectiveness of voluntary REDD+ projects at reducing deforestation and degradation in the moist tropics. *Conserv. Biol. J. Soc. Conserv. Biol.* **36**, e13970 (2022).
35. Lund, J. F., Sungusia, E., Mabele, M. B. & Scheba, A. Promising change, delivering continuity: REDD+ as conservation Fad. *World Dev* **89**, 124–139 (2017).
36. Filer, C. Why green grabs don't work in Papua New Guinea. *J. Peasant Stud*. **39**, 599–617 (2012).
37. Godden, L. & Tehan, M. REDD+: climate justice and indigenous and local community rights in an era of climate disruption. *J. Energy Nat. Resour. Law* **34**, 95–108 (2016).
38. Larson, A. M. et al. Land tenure and REDD+: the good, the bad and the ugly. *Glob. Environ. Change* **23**, 678–689 (2013).
39. Vierros, M. Communities and blue carbon: the role of traditional management systems in providing benefits for carbon storage, biodiversity conservation and livelihoods. *Clim. Change* **140**, 89–100 (2017).
40. Gupta, A., Lövbrand, E., Turnhout, E. & Vijge, M. J. In pursuit of carbon accountability: the politics of REDD+ measuring, reporting and verification systems. *Curr. Opin. Environ. Sustain.* **4**, 726–731 (2012).
41. Minang, P. A. et al. REDD+ Readiness progress across countries: time for reconsideration. *Clim. Policy* **14**, 685–708 (2014).
42. Ochieng, R. M., Visseren-Hamakers, I. J., Arts, B., Brockhaus, M. & Herold, M. Institutional effectiveness of REDD+ MRV: Countries progress in implementing technical guidelines and good governance requirements. *Environ. Sci. Policy* **61**, 42–52 (2016).
43. The Katoomba Group, Ecosystem Marketplace, Forest Trends, & Bio-Logical Capital. *Investing in Forest Carbon: Lessons from the First 20 Years*. https://www.forest-trends.org/wp-content/uploads/imported/em-bc_forest-carbon-lessons-learned-report_final_2011-pdf.pdf (2011).
44. Cadman, T., Maraseni, T., Ma, H. O. & Lopez-Casero, F. Five years of REDD+ governance: the use of market mechanisms as a response to anthropogenic climate change. *For. Policy Econ.* **79**, 8–16 (2017).
45. Kanowski, P. J., McDermott, C. L. & Cashore, B. W. Implementing REDD+: lessons from analysis of forest governance. *Environ. Sci. Policy* **14**, 111–117 (2011).
46. Cadman, T. & Maraseni, T. The governance of REDD+: an institutional analysis in the Asia Pacific region and beyond. *J. Environ. Plan. Manag.* **55**, 617–635 (2012).
47. Guttenbeil-Likiliki, O. Enough is enough: audaciously decolonising the development and humanitarian nexus. in (Development Policy Centre, 2022).
48. Recio, M. E. Dancing like a toddler? The Green Climate Fund and REDD+ international rule-making. *Rev. Eur. Comp. Int. Environ. Law* **28**, 122–135 (2019).
49. Bolin, A. & Tassa, D. T. Exploring climate justice for forest communities engaging in REDD+: experiences from Tanzania. *Forum Dev. Stud.* **39**, 5–29 (2012).
50. Maraseni, T. N., Neupane, P. R., Lopez-Casero, F. & Cadman, T. An assessment of the impacts of the REDD+ pilot project on community forests user groups (CFUGs) and their community forests in Nepal. *J. Environ. Manage.* **136**, 37–46 (2014).
51. Fujisaki, T., Hyakumura, K., Scheyvens, H. & Cadman, T. Does REDD+ ensure sectoral coordination and stakeholder participation? A comparative analysis of REDD+ National Governance Structures in Countries of Asia-Pacific Region. *Forests* **7**, 195 (2016).
52. Morgan, E. A., Bush, G., Mandea, J. Z. & Maraseni, T. Community evaluation of forest and REDD+ governance quality in the Democratic Republic of the Congo. *J. Environ. Manage.* **328**, 116891 (2023).
53. Wylie, L., Sutton-Grier, A. E. & Moore, A. Keys to successful blue carbon projects: Lessons learned from global case studies. *Mar. Policy* **65**, 76–84 (2016).
54. Bowie, R. Indigenous self-governance and the deployment of knowledge in collaborative environmental management in Canada. *J. Can. Stud*. https://doi.org/10.3138/jcs.47.1.91 (2016).
55. Bawaka Country et al. Goŋ Gurtha: enacting response-abilities as situated co-becoming. *Environ. Plan. Soc. Space* **37**, 682–702 (2019).
56. Tynan, L. What is relationality? Indigenous knowledges, practices and responsibilities with kin. *Cult. Geogr.* **28**, 597–610 (2021).
57. Lyons, K., Walters, P. & Shewring, A. "Forests for life" or forests for carbon markets?The case of Choiseul Province, Solomon Islands. (2019).
58. Mangubhai, S. & Lumelume, R. Achieving forest conservation in Fiji through payment for ecosystem services schemes. *Pac. Conserv. Biol.* **25**, 386–393 (2019).
59. Peterson, N., Hamilton, R., Pita, J., Atu, W. & James, R. *Ridges to Reefs Conservation Plan for Isabel Province, Solomon Islands*. 61 (2012).
60. Morgan, E. A., Cadman, T. & Mackey, B. Integrating forest management across the landscape: a three pillar framework. *J. Environ. Plan. Manag.* **64**, 1735–1769 (2020).
61. Recio, M. E. Transnational REDD+Rule Making: the regulatory landscape for REDD + implementation in Latin America. *Transnatl. Environ. Law* **7**, 277–299 (2018).
62. van Kooten, G. C., Bogle, T. N. & de Vries, F. P. Forest carbon offsets revisited: shedding light on darkwoods. *For. Sci.* **61**, 370–380 (2015).
63. United Nations' High-Level Expert Group on the Net Zero Emissions Commitments Of Non-State Entities. *Integrity Matters: Net Zero Commitments By Businesses, Financial Institutions, Cities And Regions*. https://www.un.org/sites/un2.un.org/files/high-levelexpertgroupupdate7.pdf (2022).
64. Morgan, E. A. & Buckwell, A. Chapter 5 Landscape planning and economics for sustainable finance. in *Chapter 5 Landscape planning and economics for sustainable finance* 89–118 (De Gruyter, 2022). https://doi.org/10.1515/9783110733488-005.
65. Harvey, C. A. et al. Climate-smart landscapes: opportunities and challenges for integrating adaptation and mitigation in tropical agriculture. *Conserv. Lett.* **7**, 77–90 (2014).
66. Wallbott, L., Siciliano, G. & Lederer, M. Beyond PES and REDD+: Costa Rica on the way to climate-smart landscape management? *Ecol. Soc.* **24**, art24 (2019).
67. Carlson, R. R., Foo, S. A. & Asner, G. P. Land use impacts on coral reef health: a ridge-to-reef perspective. *Front. Mar. Sci.* **6**, art562 (2019).
68. Pacific R2R - Ridge to Reef - Home. https://www.pacific-r2r.org/.
69. GEF Secretariat. *From Ridge to Reef: Water, Environment, and Community Security*. 92 https://www.thegef.org/sites/default/files/publications/GEF_RidgetoReef2015_r2_Final.pdf (2019).
70. Cabello, J. & Gilbertson, T. A colonial mechanism to enclose lands: a critical review of two REDD+-focused special issues. *ephemera* **12**, 162–180 (2012).
71. Richards, C. & Lyons, K. The new corporate enclosures: plantation forestry, carbon markets and the limits of financialised solutions to the climate crisis. *Land Use Policy* **56**, 209–216 (2016).
72. Strathern, M. *The Gender of the Gift: Problems with Women and Problems with Society in Melanesia*. *The Gender of the Gift* (University of California Press, 1988). https://doi.org/10.1525/9780520910713.
73. Buckwell, A. J., Fleming, C., Smart, J. C. R., Ware, D. & Mackey, B. Challenges and sensitivities in assessing total ecosystem service values: lessons from Vanuatu for the Pacific. *J. Environ. Dev.* **29**, 329–365 (2020).
74. Chubb, I., Bennett, A., Goring, A. & Hatfield-Dodds, S. *Independent Review of Australian Carbon Credit Units*. https://www.dcceew.gov.au/sites/default/files/documents/independent-review-accu-final-report.pdf (2022).
75. Mounter, B. Pacific neighbours push the barrow for Australian bushfire victims. *ABC News* (2020).
76. Kabutaulaka, T. Mapping the Blue Pacific in a Changing Regional Order. In *The China Alternative: Changing Regional Order in the Pacific Islands* 41–69 (ANU Press, 2021).

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E.M. and K.P. conceived, designed and wrote the paper. All authors read and approved the final manuscript.

COMPETING INTERESTS

The authors declare no competing interests.

ADDITIONAL INFORMATION

Correspondence and requests for materials should be addressed to Edward A. Morgan.

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