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Reclaiming open climate adaptation futures

Carol Farbotko, Ingrid Boas, Ruben Dahm, Taukiei Kitara, Tafue Lusama & Tearinaki Tanielu

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The narrative that certain areas will inevitably become uninhabitable owing to sea-level rise is powerful, yet may silence important debate about alternative climate adaptation futures. In particular, populations with low emissions and funding capacity should have their narratives centralized in adaptation.

The importance of adapting to sea-level rise is well accepted¹; without adaptation, sea-level rise may, over time, lead to currently habitable areas becoming uninhabitable. Yet, when and how sea-level rise will impact habitability, and how adaptation efforts can increase habitability in the future, is less certain^{2,3}. It has been suggested by some international organizations, scientists and journalists that sea-level rise will inevitably lead to uninhabitability for some areas, but this narrative is not necessarily accurate, as habitability is mediated by human actions and is not a direct consequence of environmental change. Narratives of the future matter in climate adaptation. The object of this particular narrative is often low-lying areas in the Global South, such as delta areas of Bangladesh, and the entire land territory of some atoll states such as Tuvalu and Kiribati. Moreover, it is generally combined with warnings about climate refugees that may need homes in other parts of the world.

However, this ‘inevitable uninhabitability’ narrative is based only partly in science, which is inconclusive on uninhabitability⁴. It is also political, drawing on beliefs about the value of some places over others^{5–7}. The narrative of inevitable uninhabitability is ethically and equitably problematic not only because it suggests scientific certainty but also because it closes consideration of adaptation pathways for some while keeping them open for others. In doing so, it fails to properly capture future visions, including Indigenous knowledge innovations, of populations themselves^{8,9}. The potential outcome of climate change adaptation should not be locked in by an overly deterministic narrative, especially when imposed by external actors such as international donor agencies¹⁰, as this may lead to populations having their right to self-determination ignored⁶. The right to self-determination is a *jus cogens* international law norm accepted by the international community that applies to all peoples and from which no exemption is permitted.

Colonial legacy of uninhabitability

It is particularly problematic that the narrative of inevitable uninhabitability, and subsequent concerns for climate relocation and migration, has been attached more often to areas in the Global South than in the Global North¹¹. Assumptions about inevitable uninhabitability are probably linked to long-embedded but problematic ideas about the superiority of the Global North over the Global South, and indeed assumed rights of the Global North to manage the Global South^{12,13}. At the same time, existing customary and local knowledges, in this case



Fig. 1 | New beach and buildings on reclaimed land, Funafuti, Tuvalu, 2019.

of habitability, are often marginalized⁸. Such political knowledge relations remain partly as a result and legacy of European colonization of many parts of the world, making the inevitable uninhabitability narrative an example of climate change colonialism, with the Global North dominating ideas about climate adaptation futures¹³.

Discussions about uninhabitability are indeed less prominent in areas of the Global North. For example, in the Netherlands, a wealthy country, two recent prime-time documentaries have sought to make Dutch citizens and policymakers more aware of Dutch vulnerabilities to sea-level rise. The documentaries argued that the Dutch are not justified in perceiving themselves to be safe from sea-level rise and well protected by centuries of knowledge and expertise in delta management. One of these documentaries showed maps of large parts of the Netherlands under water, demonstrating scenarios of several metres of sea-level rise. Yet, the issue of uninhabitability is not a significant concern among everyday Dutch citizens^{14–16}. This is to an extent justified given that the Netherlands is likely to adapt to 0.5–1 m sea-level rise in the context of its long-established delta programmes geared towards living below sea levels, but further sea-level rise will require more radical adjustments¹⁷.

The lack of a narrative around uninhabitability in countries such as the Netherlands may be an indication that certain places are being arbitrarily and pre-emptively considered less likely than others to be able to exercise their rights to sovereignty and self-determination, or access adaptation investment. This indicates a need to move beyond utilitarian, cost–benefit approaches to climate change adaptation.

The case of Tuvalu, which has never colonized another state and has had no access to resources to protect its low-lying areas historically in the same way that the Netherlands have, illustrates this point. Studies have revealed troubling beliefs in the global climate policy field about the inevitable uninhabitability, mass migration from and even expendability of Tuvalu in the face of sea-level rise^{5,18}. While the

risk of severe climate impacts in Tuvalu are not in question and are equally seen by the Tuvaluan state and its citizens as a severe threat, repetition of a perceived outcome of uninhabitability has started to devalue other climate adaptation visions and practices, particularly those arising within Tuvalu itself⁹. Tuvaluan political leaders, civil society and climate activists alike have for decades lobbied for global emissions reductions and in situ adaptation measures with the goal of addressing the risk of uninhabitability. Although Tuvalu has limited resources to fund large-scale adaptation projects, a suite of adaptation projects has been undertaken by successive Tuvalu governments and more are planned, including land reclamation projects²⁰ (Fig. 1). The inevitable uninhabitability narrative risks pre-emptively depicting such efforts as naive or futile, preventing them from serious review to determine feasibility, as well as from attracting funds and expertise – the equally low-lying Marshall Islands are already facing these consequences¹⁰. Such judgements regarding feasibility and funding will probably heavily influence whether atoll territory remains habitable or not.

In addition to adaptation funding and planning, the considerable force of the narrative of inevitable uninhabitability may also impact media coverage. For example, extensive global media attention was given to the Tuvalu government's release at COP27 of its strategy to build a virtual Tuvalu online. By contrast, limited media attention was paid to the Tuvalu government's plans for large-scale land reclamation, including new areas of reclaimed and elevated land for housing, the relocation of its airport and reforestation of existing low-lying territory. The land reclamation project has not widely captured the attention of news outlets, possibly because it does not fit the inevitable uninhabitability narrative.

Keeping climate adaptation futures open

The narrative of inevitable uninhabitability needs to be questioned, especially if this vision of the future is not shared by the inhabitants and government of an at-risk area. Populations at risk of uninhabitability, as part of their right to self-determination to freely pursue their economic, social and cultural development, should have their self-defined narratives of their own climate adaptation futures central to policy, science and public discourse that seeks to address the different spatial and temporal implications of climate change. The inevitable uninhabitability narrative risks generating a discourse of defeatism that insidiously undermines the permanent sovereignty of peoples over their natural resources, and the right of those peoples to self-determination. While new conceptions of self-determination may also be needed in the event that rising sea levels erode the physical territories to which self-determination has been tied, questions of financial feasibility should never negate self-determination: the inability of a particular jurisdiction to fund large-scale climate change adaptation internally should not result in prematurely closed futures for inhabitants of a particular area. Indeed, special vulnerabilities such as those of atoll states, which have low emissions and low financial capacity, are established provisions that must be recognized under the United Nations Framework Convention on Climate Change and the Paris Agreement.

We suggest two principles to help shape global adaptation policy and debate to ensure narratives of open climate futures. (1) Populations in the Global South create self-defined narratives of climate adaptation futures and make them available to collective science and decision-making. (2) Journalists, policymakers, academics and others who engage with habitability narratives contribute to opening rather than closing debate on habitability. This can be done by acknowledging that habitability is contextual, dynamic and contested, and that uninhabitability is not a certain outcome of a particular climate change scenario.

Keeping climate adaptation futures open in such ways can help to uphold the right of all people to self-determination and remind the international community of their legal obligations not only to address climate change under the United Nations Framework Convention on Climate Change and the Paris Agreement but also to work within *jus cogens* international law norms.

Carol Farbotko¹✉, Ingrid Boas², Ruben Dahm³,
Taukiei Kitara¹, Tafue Lusama⁴ & Tearinaki Tanielu⁵

¹Griffith Centre for Social and Cultural Research, Griffith University, Mount Gravatt, Queensland, Australia. ²Environmental Policy Group, Wageningen University, Wageningen, the Netherlands. ³Deltares, Delft, the Netherlands. ⁴Institute for Climate Indigenous Knowledge, Pacific Theological College, Suva, Fiji. ⁵School of Geography, Earth and Environmental Sciences, University of Melbourne, Melbourne, Victoria, Australia.

✉e-mail: c.farbotko@griffith.edu.au

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Author contributions

All authors made significant contributions to the conceptualization and drafting of this work.

Competing interests

The authors declare no competing interests.