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Why climate migration is not managed retreat: Six justifications

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ABSTRACT

This perspective piece makes a case for a more rigorous treatment of managed retreat as a politically, legally, and economically distinct type of relocation that is separate from climate migration. We argue that the use of both concepts interchangeably obfuscates the problems around climate-induced mobilities and contributes to the inconsistencies in policy, plans, and actions taken by governments and organizations tasked with addressing them. This call for a disentanglement is not solely an academic exercise aimed at conceptual clarity, but an effort targeted at incentivizing researchers, practitioners, journalists, and advocates working on both issues to better serve their constituencies through alliance formation, resource mobilization, and the establishment of institutional pathways to climate justice. We offer a critical understanding of the distinctions between climate migration and managed retreat grounded in six orienting propositions. They include differential: causal mechanisms, legal protections, rights regimes and funding structures, discursive effects, implications for land use, and policy inconsistencies in policy, plans, and actions taken by governments and organizations tasked with addressing them. This call for a disentanglement is not solely an academic exercise aimed at conceptual clarity, but an effort targeted at incentivizing researchers, practitioners, journalists, and advocates working on both issues to better serve their constituencies through alliance formation, resource mobilization, and the establishment of institutional pathways to climate justice. We offer a critical understanding of the distinctions between climate migration and managed retreat grounded in six orienting propositions. They include differential: causal mechanisms, legal protections, rights regimes and funding structures, discursive effects, implications for land use, and exposure to risks. We provide empirical examples from existing literature to contextualize our propositions while calling for a transformative justice approach to addressing both issues.

1. Introduction

Climate change, sea level rise (SLR), and increasing extreme events have brought climate migration and managed retreat to the epicenter of global adaptation debates and disaster risk reduction policies. An extensive literature review shows these two concepts are used interchangeably with variations ranging from planned retreat, planned relocation, climate migration, climate resettlement, managed relocation, managed migration, assisted migration, climate relocation, and climate-displacement (Dun, 2011; Farbotko and Lazzrus, 2012; Ferris, 2015; Bukvic et al., 2015; Collins et al., 2017; Ajibade, 2019; Scott et al., 2020). Of these different concepts, the two dominant ones that emerged from academic databases and an evaluation of existing literature are climate migration (CM) and managed retreat (MR). To date, there is no consensus on the meaning of CM or MR. According to Wilkinson et al. (2016) climate-induced migration implies four different patterns of mobilities: (i) people displaced by climate-related disasters who move temporarily; (ii) people forced to migrate more permanently due to recurrent events; (iii) people forced to migrate due to greater environmental degradation and (iv) people who “choose” to move as an adaptation strategy in response to environmental or other pressures. This definition encompasses a myriad of environmentally-motivated mobilities yet the lived experiences of those that migrate and those resettled through managed retreat programs are radically different. While both CM and MR suggest displacements caused by climate-related risks, this paper aims to untangle the relationship between them. Based on a critical review of 150 journal articles and grey materials published between 2000 and 2020, we identify six key differences between CM and MR. We do this not only for the sake of conceptual clarity and planning purposes, but to inspire researchers, practitioners, journalists, and advocates working on these issues to better serve their constituencies through building stronger alliances, mobilizing resources from appropriate agencies, and campaigning for social, environmental and climate justice using the right language targeted at the right audience.

2. Contested meanings: migration vs. retreat

Migration, as documented throughout human history, involves the mobility of people, usually towards a new location due to pull (e.g., work and livelihood) or push factors (e.g., drought, flood, political instability, poverty, and violent conflicts) or a combination of both (Boustan et al., 2012; Bowman and Henquinet, 2015; Hansen and Oliver-Smith, 2019). Retreat, on the other hand, refers to the withdrawal from a place because of a perceived or real threat of danger. Historically, military forces

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retreat from war zones when overpowered by enemy forces (Eyre, 1843). Some people view such withdrawal as a defeat (Sides, 2018) but others see it as a victory by saving thousands of lives (Thompson, 2009). Over the last two decades, climate change scholars and disaster experts have focused on retreat as one of several adaptation options in response to climate change. There are multiple definitions of retreat (Agymen et al., 2009; Ferris, 2015; Hanna et al., 2019; Scott et al., 2020) as well as contestations as to which “R” word (retreat, relocation, resettlement, realignment) is acceptable to different actors (Esteves, 2013; Koslov, 2016) or commonly used in different geographic regions (Hammond, 2008; Betzold, 2015; Arnall, 2019). In this paper, we use the word ‘managed retreat’ because of its emerging but controversial appeal to scholars working on the subject.

We define MR as a deliberate and strategic ‘move from climate-induced harm’ - this encompasses moving people and the resources they value such as homes, businesses, infrastructure, ecosystems, and other assets from areas of risk and resettling them in safer locations (Alexander et al., 2012; Bowman and Heniquinet, 2015; Hino et al., 2017; Ajibade, 2019). For some people, retreat may mean creating new setback areas (Abl et al., 2011; Pilkey et al., 2016), revoking building permits (Nalau et al., 2015), re-zoning and land acquisition (Dyckman et al., 2014) or outright relocation from hazardous zones (Herrmann, 2017). MR is considered an alternative to sudden displacement (Johnson, 2012; Koslov, 2016; Scott et al., 2020) and typically involves government and/or community participation (Sipe and Vella, 2014; Ferris, 2015; Moreux et al., 2018).

For example, Taro, the capital of Choiseul Province in the Solomon Islands, is set to become the first capital globally to relocate residents and services due to the threat of SLR (Albert et al., 2016). Indonesia has also announced the relocation of its capital city Jakarta to another location due to rising seas and sinking land (Chappell, 2019). Other examples include the relocation of national treasures such as lighthouses in Denmark (The Guardian, 2019) and North Carolina (Allen, 2019).

On the other hand, CM is largely about ‘human mobility’ (McLeman, 2013; Piquet, 2013). Little to no attention is given to the proactive and combined relocation of physical infrastructure, homes, and businesses in at-risk areas. Furthermore, scholarship on CM tends to focus, although not exclusively, on the movement of people from the Global South (Myers, 2002, Warner et al., 2010). For example, 50 to 200 million people are predicted to be forced to move by 2050, due to climate change impacts (Kumari et al., 2018; Thomas and Benjamin, 2018). While these numbers have been well cited by academics and international agencies (Myers, 2002; IOM, 2008; Warner et al., 2010; Piquet, 2013), it is unclear whether they include those that may relocate globally through MR. If the former is not inclusive of MR cases, it means we may have a bigger crisis at hand than previously anticipated.

For instance, in a revised estimate of global coastlines modelled with SLR and coastal flooding, Kulp and Strauss (2019) showed that under a high emissions scenario up to 340 million people could be displaced by 2050 and 630 million by 2100. This is a significantly higher estimate than predicted in a recent World Bank report (see, Kumari et al., 2018).

Furthermore, several international agencies suggest climate-induced displacement is on the rise. In 2017 alone, 18.8 million people in 135 countries were displaced by sudden-onset weather events such as flooding and tropical storms (IDMC, 2018). Other displacements have been caused by slow-onset events such as drought, desertification, shifting rain patterns, erosion, and SLR (Hauer, 2017; Heslin et al., 2019; Gray and Mueller, 2014). If these patterns continue, the questions will not be whether people will move but about how, where, and under what circumstances will they move – through climate-migration or managed retreat? This also raises critical questions about the responsibility of nation states and international organizations to protect human populations from climate-induced displacements.

While we acknowledge the entanglements and shared similarities between CM and MR [such as loss of sense of place, identity, land, culture, and ancestral ties] (Mortreux and Barnett, 2009; Black et al., 2013; Huang, 2018; Heslin et al., 2019), as well as the debate about whether both are forms of adaptation or maladaptation (Karttiki, 2011; Arnall, 2019), we do not focus on such issues. Our aim in this paper is to disentangle the relationship between CM and MR by offering six propositions.

2.1. Identifying the differences between CM and MR

2.1.1. Different causal mechanisms (Direct vs indirect)

Climate change experts consider climatic or natural disasters as a direct push-factor for MR (Dun, 2011; Alexander et al., 2012; Ahmed and McEvoy, 2014; Bowman and Heniquinet, 2015). However, migration scholars argue that climatic events such as floods, rainfall variability, droughts, or other hazards are not the cause of migration; rather, it is their immediate and midterm effects that trigger mobility, mostly, crop loss, rising unemployment, food price hikes, and poverty (Afifi, 2011; Gray and Mueller, 2012; Black et al., 2013; Martin, 2013). Black et al. (2011) find that structural conditions and individual characteristics dynamically interact to influence CM decisions. For example, non-farming poor families might not be as sensitive to rainfall variability as farmers, but they may migrate due to food insecurity, especially when their coping strategies are stretched thin and official interventions for in-situ adaptation are unavailable (de Brauw et al., 2014). Furthermore, McLeman et al. (2016) find that migration associated with hazards such as flooding or crop failure are mostly seasonal or temporary, occur over short distances, and focus on reducing vulnerability, with residents returning to the flood-affected zones after the event. In contrast, MR is an anticipatory or reactionary response to a specific or combination of hazards (e.g. flood, wildfire or SLR). It can be applied at a range of spatial and temporal scales (Hanna et al., 2019), may be voluntary or involuntary (Mach et al., 2019; Farbotko and McMichael, 2019), and may increase or undermine community resilience (Huang, 2018). Unlike CM, MR programs often discourage affected persons from returning to risk-prone areas (Lopez-Carr and Marter-Kenyon, 2015; McAdam and Ferris, 2015). We argue that both MR and CM reveal human vulnerabilities to climate change; while MR establishes a monocausal and more direct link, CM suggests a more complex relationship at play (Black et al., 2011, 2013).

2.1.2. Different legal circumstances and protections

Despite the links between climate-related disasters and internal, regional, and international migration, the term environmental or climate refugees lacks formal definition, recognition or protection under international law (Afifi and Jager, 2010; IPCC, 2018; Atapattu, 2020). There is also no agreement as to whether people on the move should be called ‘climate migrants’ or ‘climate refugees’. The United Nations High Commissioner for Refugees (UNHCR) and the International Organization for Migration (IOM) prefers the term ‘environmental migrant’ arguing that refugees are driven away from their home country due to fear of persecution resulting from violent conflict, famine, torture, or other cruel or inhuman conditions (IOM, 2014; UNHCR, 2018). The IOM has also flagged the difficulty of pinning migration on climate change. The organization argued that the opening of the 1951 Refugee Convention to include climate change-related reasons could weaken traditional ‘refugee status’ and lead to the exclusion of categories of people in dire need of protection (IOM, 2014). Recently, the United Nations Commission for Human Rights (OHCHR) recommends the use of ‘climate-displaced persons’ (CDPs) to underline the involuntary displacement caused by climate-related events (Robinson, 2017). While useful, this terminology is yet to be adopted by all UN agencies or member states.

Western governments have specifically rejected the idea of climate-induced migration (Bourke, 2017; Rieffel, 2020) and some have weaponized it as a rationale for border walls and other forms of protectionism. For example, the U.S. has refused to acknowledge the climate-migrants from its southern border by detaining people in...
concentration camps and subjecting them to poor living conditions while enforcing strict rules on family separation to deter such migration (Blitzer, 2019; The Guardian, 2020). Similarly, individuals from Kiribati who applied for climate refugee status based on SLR were rejected by Australia and New Zealand (Koerth, 2019; Law Library of Congress, 2015). European nations have also refused to grant asylum to people migrating due to climate change impacts (Tidey, 2020). Germany, for example, has expressed disagreement with a United Nations Human Rights Committee’s ruling which states “countries may not deport individuals who face climate change-induced conditions that violate the right to life” (OHCHR, 2020 p.5). Other countries have tightened their borders, increased bureaucratic rules for migration, or otherwise made themselves inhospitable. These increasing protectionist measures are not unconnected to the rise of right-wing nationalism, anti-immigrant rhetoric, and the securitization of migration promoted by scholars and the media (Levy, 1995; Myers, 2002; CNA, 2007; Boas, 2015). These problems narrow the space for thoughtful considerations of how CM might be framed as part of broader developmental, humanitarian, and climate justice goals (Ransan-Cooper et al., 2015).

On the other hand, there are promising signs of government-to-government cooperation on MR especially among Southern countries. For example, the Maldives has set up climate relocation funds for the potential purchase of land in Sri Lanka or India (Kothari, 2014). Similarly, in 2014, the government of Kiribati purchased a 20 km² expanse of land in Fiji for US$8.77 million to relocate its people should SLR inundate their Island (Caramel, 2014; Hermann and Kempf, 2017). Fiji, in turn, has invested funds in developing a legal framework to help climate-displaced communities relocating to their country (Bourke, 2017). Furthermore, in 2018, Fiji released the Planned Relocation Guidelines, becoming the first country to develop a national framework for guiding relocation processes (National Legislative Bodies, 2018). Fiji also established a Climate Relocation and Displaced People’s Trust Fund to assist CDPs. To date, this island nation has completed five full relocations of coastal villages threatened by SLR (Goering, 2020). To support these efforts, the Prime Minister of New Zealand, Jacinda Ardern, donated $2 million to the Fiji Relocation Trust Fund (Goering, 2020). These forms of cooperation show how MR might facilitate the resettling of CDPs compared to cross-border CM.

2.1.3. Different rights regimes and funding sources

Different rights regimes and protections apply to CM and MR. Property rights and associated funding mechanisms underscore many MR efforts. For example, in the United States, people’s right to housing and property are recognized and protected through buyouts of individual properties (Siders, 2019; Flavelle, 2019) and financing of relocation of entire villages (Davenport and Robertson, 2016). Strategies employed elsewhere include the provision of social housing in the Philippines (Carrasco et al., 2016; Ajibade, 2019), government-provided interest-free loans in Vietnam (Dun, 2011), allocation of farming plots in Rwanda (Gebauer and Doevenspeck, 2015), and the purchase of land in foreign countries by Kiribati (Herrmann and Kempf, 2017). While these incentives and mechanisms are not always satisfactory (Carrasco et al., 2016; Dun, 2011; Collins et al., 2017) and may exacerbate economic and social inequalities (Farbotko and Lazarus, 2012; Ajibade, 2019; Mach et al., 2019), no recognition of property rights exists under CM. Instead, migrants struggle to have their rights to life and freedom of movement recognized. Many migrants face physical threats as they make the treacherous journey to cities or new countries. If they survive this journey, there is no compensation for losses related to climate impacts; no ‘officially designated’ financial or economic assistance for resettlement; no guarantees of free entry into their preferred country of resettlement; and certainly no right to citizenship even when granted entry (in the case of international CM).

We do not suggest MR is the ideal solution in all circumstances. Indeed, retreat can be expensive (Thomas and Benjamin, 2018), it is not widely accepted (Gibbs, 2016; Arnall, 2019), may change people’s access to important natural resources such as land, water and plants (Hammond, 2008), and outcomes may undermine livelihoods (Kothari, 2014). For example, the resettlement sites for farmers in Rwanda were located on rocky soils not conducive for growing crops. This forced them to return to vulnerable riverside plots where they faced potential fines or jail time (Gebauer and Doevenspeck, 2015). Despite these challenges, MR offers a chance for compensation of property loss due to climate change impacts compared to CM.

Furthermore, funding structures for CM and MR are different in many countries. For example, in the Philippines local CM is typically funded out-of-pocket by individuals, while MR is funded through designated grants from the National Housing Authority, Department of Interior and Local Government, and the Department of Social Welfare and Development (Ajibade, 2019). In the US, funding for migrants and refugees comes from the Bureau of Population, Refugees, and Migration. Whereas MR programs are funded by grants from two major sources: (i) the Federal Emergency Management Agency (FEMA) which oversees the Hazard Mitigation Grant Program (HMGP) and Flood Mitigation Assistance Grant Program (FMA); and (ii) the US Department of Housing and Urban Development (HUD) which manages the Disaster Recovery Buyout Program (Freudenberg et al., 2016). Understanding these differences in compensation and funding mechanisms is crucial especially for frontline communities and their advocates.

2.1.4. Different discursive effects

Discourse and discursive labels are artifacts of power with material implications (Foucault, 1982). CM and MR are underpinned by different discourses. While MR suggests an ‘orderly’ and coordinated movement of people with agency, migration discourse often portrays migrants as helpless victims with no agency or resilience fleeing disappearing or drought-stricken land (Farbotko, 2010; Farbotko and Lazarus, 2012; Thomas and Benjamin, 2018). This narrative contributes to the objectification of migrants who become sensationalized in the media through various imageries and labels such as ‘the world’s first climate change refugees’ used to describe the Pacific Islands people (Kothari, 2014; Piquet, 2013; Methmann and Oels, 2015; Dreher and Voyer, 2015). Not only do these imageries and labels conjure a frightening and chaotic vision of people from the Global South moving en masse to the Global North, they lead to the objectification of migrants who are transformed from objects of climate change spectacle (Goudouzian, 2019) into the abject (Schinia, 2017).

The abject is neither an object nor a subject, but an entity that is radically different by our symbolic order of meaning to allow for an intersubjective community to persist (Kristeva, 1982). It is “what disturbs identity, sense, and order. What does not respect borders, positions, or rules and highlights the fragility of the law and the eruption of the ‘real’ into our lives” (Kristeva, 1982, p.6). We are simultaneously repelled and envied by the abject because of the images of trauma, sympathy, and suffering they conjure (Schinia, 2017). Our sense of sympathy and othering is aroused in response to their suffering, even as they are not seen as humans or sub-humans, but as a social category to which we must apply spatial rules and etiquette of social distancing. This abjectification of people brings to bear the under-theorized and policed ways in which CM is often discussed at the international level as a response of desperate people fleeing a location at risk with no livelihood, no prospects of return, and therefore must be “othered” or kept out until society can determine who or what they are. By implication, this creates a new victimization, a second disaster, for those already battling the impacts of climate change. This can be seen in the case of Alaskan Natives and the Biloxi-Chitimacha-Choctaw Tribe of Isle de Jean Charles (IDJC), Louisiana, who were labelled America’s ‘first climate refugees’ despite not crossing internationally recognized borders (Davenport and Robertson, 2016; Herrmann, 2017). Yet, these resettlements are better understood as examples of MR.

In the case of the IDJC, the Tribal Council organized and advocated for community relocation to mainland Louisiana for nearly two decades.
before being awarded a $48 million grant in 2016 by the Department of Housing and Urban Development (Boyd, 2019). The disbursement of this fund was through Louisiana’s Office of Community Development-Disaster Recovery Unit (Herman, 2018). Despite having institutional support, the IDJC relocation process was fraught with problems. The surrounding community, mostly Whites, resisted the tribes’ resettlement, claiming their presence would be problematic and may lead to more flooding (Herman, 2018). The State also made changes to the tribe’s original resettlement plan in ways that did not reflect their goals and objectives (Dermansky, 2019). For example, the tribe could lose their rights over previous lands if they accept the State’s current plans. This example therefore offers a cautionary tale in the context of MR.

On the issue of discourse, we argue that labels such as ‘climate refugees’ further reinforces a disempowering vulnerability narrative that permits governmental agencies to ‘act upon’ people rather than ‘act with them’ to mitigate current and future climatic risk. Whereas what is needed is a transformative resilience-based discourse that fosters the self-determination of communities and the agency of individuals in decision making, planning, and implementation, as seen in the case of New York residents after Hurricane Sandy (Baker et al., 2018). Although, this example also suggests that the socio-economic status of affected populations, the lack of information and communication, and the persuasiveness of local mitigation officials, can influence the acceptance of retreat, thereby undermining people’s agency (De Vries and Fraser, 2012; Baker et al., 2018).

2.1.5. Different consequences for land

The challenges with CM and MR are not only financial, social, political, cultural, and economic, but extends to land-use patterns and conflicts over land (Brady, 2015; Harker, 2016; Hanna et al., 2019).

Land conflicts are particularly prominent in the context of MR with contestations involving the disappearance of cultural land and heritage (Huang, 2018), valuation of land solely in financial terms (Marino, 2018), inadequate compensation for loss of land (Siders, 2019; Flavelle, 2020), elite capture and enclosure of land (Ajibade, 2019), demographic pressure in resettlement sites (Hanna et al., 2019) and uncertainty about land tenure in receiving communities (Donner, 2015). Related to these issues are the unmaking and remaking of place and the role of MR in land-use and spatial planning within wider adaptation governance. For example, some MR programs have led to the unmaking of land where the withdrawal of a community has resulted in land abandonment as a means of creating a sacrificial buffer zone for future flooding events (Maly and Ishikawa, 2013). Other cases involve the remaking of land where vacated areas are repurposed for new uses. Positive examples include ecological restoration in Mongolia (Dickinson and Webber, 2007), wetlands in China (Du, 2012) and recreational uses such as community parks and gardens in the US (Brady, 2015; Zavar and Hagelman, 2016). Negative examples can be found in Lagos and Manila where retreat incentivized new development of at-risk coastal lands following the forced displacement of the poor (Ajibade, 2019).

2.1.6. Differential needs and the spectrum of risk

The choice to migrate or retreat is not an easy one and can have varying ramifications for the population on the move, those left behind, neighboring communities, and for places where people resettle. It can also have significant implications for the local economy of these different communities. Drawing on existing literature, we develop a gradient for understanding the spectrum of risk (from high to low) in the context of climate-induced mobilities (Fig. 1). We designed this simple visualization to assist adaptation planners and policy makers to better determine who is being targeted by which policies, what resources or support is needed by which groups, and when these resources must be made available to avoid high risk situations.

In Fig. 1, we describe four broad categories of experiences and risk levels associated with CM and MR. The first category includes populations affected by climate change but are too poor to relocate or migrate, cannot physically move, or may experience other forms of involuntary immobility (these populations are trapped in place) (Black et al., 2013; Logan et al., 2016; Nawrotzki and DeWaard, 2018; Ayeb-Karlsson et al., 2018). There are others who migrate locally, regionally, or internationally but end up trapped in slum settlements, refugee camps, in a cycle of homelessness, or become stateless (these population are trapped in new place) (Dowd, 2008; Black and Collyer, 2014). The trapped populations at both ends of the spectrum potentially face the highest risk associated with climate change and socially-induced vulnerabilities (O’Neill et al., 2005; Black and Collyer, 2014). For example, in the case of international CM, evidence suggest, on average, people spend a decade or more in refugee camps (National Geographic, 2018). Those in this situation are more likely to be exposed to extreme weather events, diseases, physical and sexual violence, and mental trauma. They also have limited access to health care, education, food, and other basic necessities. Furthermore, the outbreak of the 2020 Coronavirus pandemic revealed people in refugee camps face high exposure to such biological hazards due to their inability to practice social distancing in crowded settlements (Pollak, 2020).

Second on the spectrum of risk are those who, through CM or MR, resettle in a new place but face new physical hazards such as an earthquake, floods, or landslides (Carrasco et al., 2016; Huang, 2018) as well...
as new livelihood risks. For example, the thousands of people who migrated from rural Bangladesh to the slums of Dhaka found their new location was not safer, and their migration contributed to landlessness, indebtedness, and poverty (Rana and Nessa, 2017). Third, are those that face either physical or livelihood risk in the resettlement sites, but not both. An example in the case of MR are urban poor residents in Manila who were resettled to the outskirts of the city which had low flood risk compared to Manila City but limited livelihood options (Ajibade, 2019). Both categories two and three reflect risk substitutions across geographic spaces rather than meaningful adaptation.

In the fourth category are people who successfully resettle in new locations with better livelihoods and minimal exposure to climatic hazards. A community-led village MR program in Mararo in the Solomon Islands is one example (Albert et al., 2016). The experience of rural dwellers in Bangladesh after cyclone Aila is an example in the context of CM (Kartiki, 2011). In terms of cross-border CM, there is Kiribati’s ‘migration with dignity’ program where government provides resources and technical assistance for those who wish to migrate to Western Countries such as Australia and New Zealand. This program does not assist everyone, especially those with limited education or with largely subsistence livelihoods (McNamara, 2015; Farquhar, 2015).

In most, if not all cases, successful CM or MR requires institutional or community support in relocation sites and from the receiving communities. There are very few examples of ‘successful resettlement’ in the current literature. This is, partly, because it is unclear what “success” means for different stakeholders and how this is measured especially by CDPs, receiving communities, those left behind, NGOs, local authorities, national government, and the international community. This gap in knowledge represents an opportunity for future empirical studies.

We argue that the categories described in Fig. 1 are not static but fluid conditions. An individual or group may migrate and then retreat and vice versa. For example, climate-migrants who live in an uninhabitable refugee camp affected by repetitive flooding may retreat to a new camp site with less flooding. Also, a family who retreat from wildfire-prone areas to a new location may find the resettlement site culturally-hostile and therefore may migrate within the same country or internationally. In the case of the latter, the migration is not directly driven by climate change impacts but by conflict with host communities. Fig. 1 should therefore be seen as a representation and not a determinant of mobility patterns for every CDPs.

In Table 1, we summarize the differences between MR and CM describing causes, goals, processes, as well as distinct and shared outcomes.

| Table 1 Differences and Similarities between Climate Migration and Managed Retreat. |
| --- |
| **Climate Migration** | **Managed Retreat** | **Sources** |
| **Causes** | Last resort due to lack of alternatives | Last resort/one of several adaptation options | McLeod et al., 2016; Hino et al., 2017 |
| | Climate change is an indirect cause – multiple factors trigger mobility | Climate change is a direct cause – usually a specific hazard prompts relocation (e.g. flood, drought, SLR) | Afifi, 2011; Dun, 2011, Gray and Muller, 2012; Ilack et al., 2013 |
| | Often reactionary | Anticipatory or reactionary | Black et al., 2013; Huang, 2016; Ajibade, 2019 |
| | Focused largely on people | Focus on people, assets, and ecosystems | Alexander et al., 2012; Hanna et al., 2019 |
| | Focused on reducing vulnerability | Focused on increasing resilience | Afifi and Jager, 2010; Ahmed and McEvoy, 2014 |
| **Goals** | Seeking new livelihoods and safety | Seeking safe location as a primary goal | Hammond, 2008; Afifi, 2011; Ajibade, 2019 |
| | Migrants move towards economic centers | Relocates may move away from economic centers | Hanna et al., 2019 |
| | Not focused on land making | Land making and remaking are considered | 
| **Process** | Self-funded | May be state or community funded | Dun, 2011; Carrasco et al., 2016; Montreux et al., 2018; Siders, 2019 |
| | No clear plan | Often involves a planning process | Farbotko and Laxos, 2012; Malys and Ishikawa, 2013 |
| | No clear destination | Destination may be known | Arnall, 2019 |
| | No buyouts | Potential for buyouts | Malys and Ishikawa, 2013; Siders, 2019; Mach et al., 2019; 
| **Outcomes** | Gaps in legal protection | May include legal or other protections | McAdam and Ferris, 2015; Afifi, 2011; Apattu, 2020; Gebauer and Doevenspeck, 2015; Siders, 2019; Mach et al., 2019 |
| | Does not protect property rights | May protect private property rights | 
| | No compensation | May include compensation | 
| | Labelled climate refugees, migrants, displaced | No clear label/ displaced persons | Gold and Nawyn, 2019; Hanna et al., 2019 |
| | Loss of human capital | Redistribution of human capital | Kothari, 2014; Dreher and Voyer, 2015; Voyer, 2016; Huang, 2018 |
| | Loss of identity, culture, and place | Loss of identity, culture, and place | 

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transformative approach encompassing radical shifts in discourse and practice is therefore required in how we address both issues. This shift must aim to create more options for justice and legal tools that acknowledge, enable, and support affected communities in realizing their goals for safety and access to livelihoods. It also means states have to create dedicated institutions, guidelines, trainings, pathways, and financing to address the needs of frontline communities while safeguarding their rights to self-determination.

In countries with no dedicated structures and laws to address CM and MR, the need for a transformative justice approach is even more necessary. For some countries, this may mean creating two separate legal structures or a robust one to handle both CM and MR. For example, New Zealand plans to create a new law and funding structure for MR (Daalder, 2020) while also considering “an experimental humanitarian visa” category for climate migrants seeking entrance into their country (Fiennes, 2019). Australia and New Zealand also have in place international labor migration programs which may be expanded to include climate-related migration. In the US, Representative Nydia Velázquez (D-NY) has proposed “The Climate Displaced Person’s Act” (H.R. 4732) which aims to welcome up to 50,000 CDPs per year to the United States (Velázquez, 2019). These examples show different institutional arrangements and proposed pathways to achieving climate justice for frontline communities. Should these efforts fail, the world may have to create a new legally-binding multilateral convention with comprehensive rights that supports the migration, relocation, and resettlement of CDPs. Ideally, this treaty will have similar recognition and impact as the 1951 Refugee Convention. For this to happen, current politics of fear and securitization of migration must give way to bold leadership, collective action, and transnational solidarity.

Transnational solidarity in this case means addressing these challenges with a sense of urgency, empathy, and mutual respect while recognizing the agency and needs of affected communities. It also implies building stronger vertical and horizontal alliances among different actors to support these communities. For example, organizations such as the IOM, UNHCR, and OHCHR need to collaborate more with migrating individuals and communities as well as with national governments and scholars of refugee law, human rights law, geography, sociology, anthropology, and related disciplines. Similarly, organizations currently handling MR need to work closely with at risk communities, housing advocates, land use planners, geographers, climate activists, governments as well as agencies such as International Displacement and Monitoring Center (IDMC), and the Platform on Displacement Disaster (PDD). Attention to power relations within and across these alliances are important to ensure fairness and equity in decision making, planning, and outcomes.

Lastly, there are gaps in the literature that require attention. These include: the role of non-governmental organizations (NGOs) in CM and MR; empirical case studies of successful CM and MR and their underpinning processes and stakeholder engagements; international and border politics on CM and MR; gender, intersectional, and environmental justice impacts of MR; land disputes and ecological effects of MR and CM; global and local politics associated with MR and CM and the intertwined nature of these politics; and human relationships with ‘impermanence’ as a new normal. The latter implies that people may be displaced multiple times and therefore have to move multiple times. The psychological, cultural, economic and political implications of impermanence as permanent reality thus require further exploration. We call on researchers to examine these different issues. Our goal in this piece was to contribute to such efforts by presenting the distinctive elements between CM and MR and unpacking the processes that are critical to further theorizing and addressing them. We argue that clarity in terminology combined with transformative thinking and the cultivation of strategic alliances can contribute to an agenda setting and targeted policies for creating a more just future.

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Author contribution statement
Idowu Ajibade led the conceptualization, literature review, analysis, diagram, table, and writing of the study. Meghan Sullivan conducted literature review and assisted in designing diagram, table, and edits. Melissa Haefner assisted with edits. All authors contributed to the interpretation and revision of the manuscript.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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