

Portland State University

**PDXScholar**

---

Geography Faculty Publications and  
Presentations

Geography

---

2022

## Introduction: Climate Change and Planned Retreat

Idowu Jola Ajibade

*Portland State University, iajibade@pdx.edu*

A. R. Siders

*University of Delaware*

Follow this and additional works at: [https://pdxscholar.library.pdx.edu/geog\\_fac](https://pdxscholar.library.pdx.edu/geog_fac)



Part of the [Nature and Society Relations Commons](#), and the [Physical and Environmental Geography Commons](#)

**Let us know how access to this document benefits you.**

---

### Citation Details

Ajibade, I. J., & Siders, A. R. (2022). Introduction: Climate change and planned retreat. In *Global Views on Climate Relocation and Social Justice*. Taylor & Francis.

This Book Chapter is brought to you for free and open access. It has been accepted for inclusion in Geography Faculty Publications and Presentations by an authorized administrator of PDXScholar. Please contact us if we can make this document more accessible: [pdxscholar@pdx.edu](mailto:pdxscholar@pdx.edu).

# Global Views on Climate Relocation and Social Justice

Idowu Jola Ajibade and A.R. Siders

First published 2022

ISBN: 978-0-367-69344-2 (hbk)

ISBN: 978-1-003-14145-7 (ebk)

## Chapter 1

---

### Introduction: Climate change and planned retreat

*Idowu Jola Ajibade and A.R. Siders*

(CC-BY-NC-ND 4.0)

DOI: 10.4324/9781003141457-1

This OA chapter has been funded by Portland State University



# 1 Introduction: Climate change and planned retreat

*Idowu Jola Ajibade and A.R. Siders*

Climate change is already redefining the landscapes of risk across the globe: from rising seas and shoreline erosion in small island states to heat waves and massive flooding in Europe, Asia, and Africa, and expanding wildfires and heatdome in the American West. These events are intensifying patterns of displacement, migration, and relocation within and between countries. In the last two decades, over 480 million people were displaced globally by climate-related disasters (IDMC, 2018; UNDRR, 2020). From 2000 to 2019, over 7,000 climate-related disasters killed an estimated 1.23 million people and caused 2.97 trillion (USD) in economic losses (UNDRR, 2020). During this time, an average of 24 million people were displaced per year globally (IDMC, 2018). These displacements are not experienced in isolation but as part of the complex intersecting economic, social, political, and environmental crises that puts severe strain on individual and community well-being across the world. By 2050, as many as one billion people could be displaced by a combination of climate change impacts, extreme events, and environmental degradation (IEP, n.d.), and thus raising critical concerns about finding appropriate climate adaptation and disaster risk reduction strategies.

To date, climate adaptation efforts have primarily focused on enabling people to remain in their homes – to adapt *in situ* (Jamero et al., 2019). However, in light of relatively unambitious climate change mitigation by cutting greenhouse gas emissions, and with increasing but widespread disasters, some adaptation practitioners, policy makers, and communities have begun to consider planned retreat – that is, proactive and coordinated efforts to relocate people, infrastructure, and assets from hazardous areas and resettling them in relatively safer locations (Greiving et al., 2018; Hino et al., 2017; King et al., 2014). Around the world, governments and communities have retreated, are in the process of doing so, or are planning for a future when retreat may be inevitable. While some planned retreat programs empower and benefit individuals and communities, others ignore people’s rights, entrench inequities, and perpetuate risk, vulnerability, and harm on already marginalized communities and groups. This lack of attention to equity and justice can undermine the potential of planned retreat as a viable adaptation strategy.

This volume contributes to an emerging body of literature on planned retreat and socioenvironmental justice. It aims to help researchers, policy makers, practitioners, students, affected communities, and the public to explore climate-induced relocations from a multidimensional justice perspective. Using justice-based approaches as a framework and an analytical lens has a potential to advance

a deeper understanding of how retreat might support the rights, self-determination, livelihoods, physical health, and sociocultural needs of individuals and communities facing the most severe impacts of climate change. We argue that such approaches must be rooted in an understanding of communities' past experiences, current challenges and needs, and their visions for the future.

### **1.1 Planned retreat: Why is it important?**

Planned retreat (also called planned relocations, managed retreat, planned resettlement, or assisted migration) is not new. Communities across the globe have relocated throughout history in response to climatic drivers (McLeman & Smit, 2006; Warner et al., 2013). If we consider just the 20th century, there are numerous examples from every corner of the globe. The Banaban community relocated from present-day Kiribati to Fiji and the Vaitupuans moved from Tuvalu to Fiji (McAdam, 2014). In the 21st century, towns in Australia and the United States relocated to avoid repetitive and/or coastal flooding (Forsyth & Peiser, 2021; Pinter & Rees, 2021; Sipe & Vella, 2014). Communities in Canada, China, Ethiopia, Germany, India, Italy, Japan, Mozambique, New Zealand, Peru, the Philippines, Tanzania, Thailand, Uganda, the United Kingdom, and Vietnam also relocated due to floods, storms, erosion, and other climatic hazards (Arnall, 2019; Greiving et al., 2018; Marter-Kenyon, 2020; Reisinger et al., 2014). These forms of relocations differ from climate migration in the degree of planning, government intervention, funding, legal protection, and claims to property rights (Ajibade et al., 2020; Miller, 2020).

There is no single pattern for how planned retreat or climate relocation occurs. It may be voluntary or forced (Farbotko et al., 2020; King et al., 2014), community or state-led (Albert et al., 2018; Cronin & Guthrie, 2011), and in-country or cross border (McAdam, 2014; McMichael & Katonivualiku, 2020). It is usually implemented through building restrictions (Reisinger et al., 2014), property acquisitions or buyouts (Mach et al., 2019; Siders, 2019a, 2019b; Thaler & Fuchs, 2020), social housing provision (Ajibade, 2019; See & Wilmsen, 2020), farmland swaps (Arnall, 2019; Gebauer, & Doevenspeck, 2015), and construction of new residential areas or towns (Bower & Weerasinghe, 2021; Forsyth & Peiser, 2021). Although, retreat is a universal strategy in response to environmental change, it is most prevalent in the Global North (Bower & Weerasinghe, 2021; Niven & Bardsley, 2013) and expanding in the Global South (Arnall, 2019; Marter-Kenyon, 2020; Piggott-Mckellar et al., 2020).

Depending on how planned retreat occurs, it can have a variety of positive and negative outcomes for the same individuals or for different groups. At its best, relocation can protect lives, avoid costly efforts to remain in place, reduce mental stress, and allow land to be used for community activities and/or nature-based ecosystem restoration (Ferris & Weerasinghe, 2020; Kochnower et al., 2015; Koslov et al., 2021; Zavar et al., 2016). At its worst, it can disconnect

people from their livelihoods, exacerbate poverty and food insecurity, disrupt place attachment and identity, and splinter communities (Ajibade, 2019; Connell & Lutkehaus, 2017; Hammond, 2008), and thus perpetuating social inequality and vulnerability (Afifi et al., 2012). For instance, the relocation of a self-sufficient community from a frequently flooded but fertile ecosystem in eastern Uganda to a drier location in the western part of the country, transformed the social reproduction of farmers such that they became wage laborer and experienced livelihood fragility and economic vulnerability (Mafaranga, 2021). Relocations can also affect people emotionally and culturally. Place attachment, for example, can be profound in the case of Indigenous peoples whose identity is tied to the land (Albert et al., 2018; Huang, 2018). Relocation may also contribute to marginalization and disempowerment. For example, when informal settlers are moved from visible places (i.e., riverbanks and popular urban centers) to uninhabited land or rural areas, where the problem of poverty becomes more difficult to see and residents are less likely to receive support (Alvarez & Cardenas, 2019; Hammond, 2008). Wealthy elites may also take over spaces formerly occupied by the poor, thus contributing to wealth disparities and unequal access to social services (Ajibade, 2019). Put differently, some individuals and communities may gain and feel empowered as a result of relocation, but others may lose and feel disempowered. These feelings of loss and gain may also occur simultaneously for some people as they grieve the loss of their former home and embrace the opportunities in a new location (McNamara et al., 2018). Planned retreat therefore presents a number of complex logistical, social, political, ethical, and cultural challenges (Bower & Weerasinghe, 2021; McNamara et al., 2018; Siders and Ajibade, 2021; Thaler & Fuchs, 2020).

Decisions about retreat can be very complex as it typically involves multiple households, government agencies, civic organizations, and the private sector. Group decision-making requires balancing power dynamics among unequal actors and addressing trade-offs among different needs such as economic efficiency, human security, ecological preservation, and cultural heritage. For some communities the decision is whether to move or stay (Seebauer & Winkler, 2020); for some residents, it is when to move, where, and who or what should move (Ajibade, 2019; Linnenluecke et al., 2011); and for others, it is about acquiring the financial resources, technical assistance, and political support needed for relocation (Marino, 2018; McNamara et al., 2018). For example, in this volume Giovanni, Ramos, and the Enseada community in Brazil describe how their village's historical lack of political power made identifying a relocation site and obtaining relocation support more difficult. Finally, when populations wish to relocate but are unable to access resources, they may become trapped-in-place, leading to feelings of abandonment and continued exposure to multiple risks (Das & Hazra, 2020; Marino, 2018).

## 1.2 Planned retreat and the justice challenge

The notion of justice exists in different cultures and has developed through the ages as a basis for social institutions, economic relations, religion, politics, environmental protection, and climate stewardship. Justice is a fundamental political element about how people are treated and what claims they can make with respect to freedom, opportunities, resources, and social goods (Barry, 1989; Rawls, 1971; Schlosberg & Collins, 2014). In the context of planned retreat, one might ask: Who is most at risk from which climatic hazards and why? Who has access to resources to adapt in place or to relocate? And who has the political or economic power to determine whether they stay or leave? These questions intersect with different concepts of justice.

Retreat intersects with *environmental justice* (EJ). EJ goes beyond the equitable distribution of environmental goods (i.e., green amenities and infrastructure) and environmental bads (i.e., pollution, toxic chemicals, and urban heat) to include *procedural justice*, which involves formal participation of affected communities in decision-making about retreat; and *distributive justice*, which argues against the uneven distribution of the benefits or harms caused by relocation (Ajibade, 2019; Bullard, 1996; Bullard & Wright, 2009). *Social justice* is similarly implicated in retreat by focusing on the allocation of resources and a broader set of goods such as affordable housing, access to livelihoods, preservation of culture and heritage, wealth distribution, and power dynamics in the political economy.

*Ecological justice* is also crucial. It urges consideration of the rights and needs of ecosystems and nonhuman species in decisions and implementation of retreat (Davis et al., 2018; Parks & Roberts, 2006). Without reviving degraded ecosystems through planting trees, cleaning riverbanks, or giving nature space to recover, it may be difficult to achieve other justice goals such as equitable distribution of environmental amenities including clean air and water. *Recognition justice* in retreat requires the acknowledgment of historic wrongs such as slavery, settler's colonialism, redlining, segregationist policies, and disinvestments patterns that shape current conditions and people's experience of marginality in different facets of life (Pulido, 2000; Schlosberg, 2003). Blacks, Indigenous, and other communities of color have a legacy of disinvestment that has increased their exposure to risk and decreased their access to healthy environments. *Restorative justice* in retreat seeks to tackle these problems by ensuring that relocation programs ameliorate not perpetuate historical wrongs (McCauley & Heffron, 2018).

The different aspects of justice discussed in this section often agglomerate for historically marginalized communities facing climate threats and relocation decisions. In the United States, for example, concerns about community safety goes beyond matters of land use and hazard mitigation to include questions about systemic racism, housing inequities, police brutality, unequal burdens of pollution, gentrification, exclusionary development patterns, neoliberal policies, and extractive practices that contribute to climate change (Tessum et al., 2019). These problems have consequences that linger for centuries (Davis et al., 2018;

Schell et al., 2020). In other words, the multiple injustices of climate change and relocation is fundamentally and intricately linked to questions about the social production of humans and ecosystem evolution.

### 1.3 Gender, planned retreat, and adaptation labor

One aspect of justice that has been insufficiently explored in the academic literature and public discourse on planned retreat is gender. Yet the multiscalar, micropolitical, and differentiated effects of climate change and climate-induced disasters are often gendered (Ajibade et al., 2013; Butterbaugh, 2005; Lama et al., 2020; Vaz-Jones, 2018). In many parts of the world, women's lives are inextricably tied to climate and weather conditions. Women in rural Africa and Latin America, for example, are involved in the agricultural sector as the main producers of staple foods, making their livelihoods vulnerable to climate variability and change (Koubi et al., 2016; Yila & Resurreccion, 2013). The ecological and health burdens of hazards such as flooding or water scarcity are also disproportionately borne by women because of their domestic duties and gendered roles in the household (Ajibade et al., 2013; Sultana, 2011). In times of socioeconomic instability and destroyed harvest following natural disasters, women are mostly responsible for finding in-place solutions as men migrate to urban areas in search of opportunities (Abel, 2018; Koubi et al., 2016). Men's migration, in turn, increases the burden of responsibilities on women such as their share of agricultural work, water management, and household chores (Nizami et al., 2019; Yila & Resurreccion, 2013). These intersecting problems of climate change, disasters, migration, and gender have been well discussed in the migration literature (Lama et al., 2020; Vincent et al., 2021), but there are limited data on the gendered experiences and impacts of planned retreat.

The available literature on planned retreat suggests men determine relocation decisions by virtue of their position as head of the household (Neef et al., 2018), community leaders, and landowners (see chapter by Ruggeri in this volume). By contrast, women are typically renters or land-users – they perform much of the household, agricultural, and low-paying commercial work but do not own land for themselves (Vaz-Jones, 2018). Relocation programs based on property or *de jure* land ownership, therefore, may ignore women's needs and customary rights. Women may also be overlooked in relocation negotiations due to domestic constraints on their time and their limited experience engaging with high level government agencies or emergency managers, many of whom are men. Furthermore, female-headed households and single-mothers may receive less support during relocation because women have less bargaining power than men due to flawed perceptions of their contribution to household well-being (Smyth & Sweetman, 2015). In other cases, women are leading the charge for adaptation and shouldering the actual labour required to ensure the safety of families and communities and their access to livelihoods (Dube et al., 2017). Ignorance of these dynamics in retreat programs and of women's adaptation labour may create new forms of gendered invincibility by reinforcing existing

patriarchal structures that prioritizes men's voices and needs. Questions about how gender shapes relocation and how relocation in turn shapes the lived experiences of men and women and their access to resources remains crucial as retreat programs gain new grounds.

We argue that it is important not to essentialize women or men, or over-generalize their experiences, as other axes of differentiation and overlapping identities such as race, class, ethnicity, socioeconomic status, age, marital status, religion, health rights, caregiving and parental status shape an individual, family, or community's experience of relocation (Ajibade et al., 2013; Crenshaw, 1991; Lama et al., 2020; Vaz-Jones, 2018). For example, in Ithemba, South Africa, a government-led relocation and expropriation of land revealed how race, gender, and class inequalities intersect to exacerbate the experience of relocation for women (Vaz-Jones, 2018). Also, in Haiti, resettlement and land appropriation for banana plantations after the 2010 earthquake intensified poverty and food insecurity for women who were largely absent from the relocation decision (Steckley & Steckley, 2019). The out-migration of men as a result of the land appropriation led to a loss of solidarity within communities and an increased divorce rate; consequently, a higher number of rural women became heads-of-households where they were forced to assume the responsibility of family subsistence needs in an increasing context of risk and uncertainty. A justice-oriented planned retreat perhaps may be a panacea to such problems, especially when people relocate as a family or community as opposed to when they migrate independently. For example, in New Zealand, government-relocation programs for families in response to earthquakes, improved the quality of life for women and their families (Hoang & Noy, 2020). Also, in coastal Vunidogoloa, Fiji, women reported high benefits from climate-related relocation because they were involved in planning processes, and the resettlement allowed villagers to maintain physical, sociocultural, ancestral, and spiritual attachment to place as well as access to land and livelihood resources (McMichael et al., 2019).

We encourage researchers in the planned retreat field to consider a feminist decolonial approach (Wijsman & Feagan, 2019) that can open up novel lines of exploration, inquiries, methods, and a deeper understanding of the gendered and intersectional implications of climate relocation. Such an approach does not only challenge dominant knowledge production, typically connected to neoliberal hegemonic masculinity, but also rejects narrow solutions that perpetuate all kinds of injustices. Furthermore, this approach calls for transforming global and local systems as well as institutions and structures that foster uneven class, gender, and racialized experiences of climate disasters and relocation in response to those disasters.

#### **1.4 A diversity of perspectives**

This edited volume draws attention to historical and contemporary structures, policies, and practices that create differentiated social, gender, and racialized



landscapes of risk and how these landscapes intersect with the complex experiences of communities and individuals confronted with planned retreat as a climate adaptation strategy. Our book includes global examples (from Australia, Brazil, Canada, Colombia, Fiji, Guyana, India, Myanmar, Malawi, the Philippines, and the United States) of communities who have relocated, are in the process of relocating, remain partially in place while members relocate, or have been unable to relocate. Contributors include academics, community members, social activists, lawyers, adaptation practitioners, landscape architects, poets, sculptors, and communication specialists. Each author provides different lenses through which to consider the justice implications of planned retreat. Sculptures and commentaries from individuals facing climate hazards and relocation are spaced between sections to remind readers that relocation is a deeply personal and emotional process affecting the daily lives of people.

We begin with an exploration of the *legal and historical landscapes* in the United States. Kristin Baja offers a “thick analysis” of recognition justice by showing how power, race, class, and language shape who leads, manages, and experiences relocation. This chapter centers the importance of recognizing how historical injustices have contributed to why Black, Indigenous, and People of Color have persistently been in harm’s way and how the current structure and implementation of planned retreat through federal property acquisition programs continues this racialized system. Baja argues for planned relocations to include reparative actions that account for historical and contemporary injustices by ensuring improved access to livelihoods, cultural connections to land, and robust support for community health and well-being.

Moving from national to international scale, Thea Dickinson and Ian Burton note how the lack of international agreements, policy incoherence, increasing nationalism and closed borders, and prolonged adjudication of legal cases involving climate-induced relocations has not only put resettling communities at risk, but also deny them the protection and safety nets necessary for climate adaptation. Dickinson and Burton draw on planned relocations in the Maldives to demonstrate how climate relocations can become a form of maladaptation. Specifically, they question whether intranational relocations in the Maldives create a false sense of security and permanence that may ill-prepare citizens for international relocation and the legal challenges it will entail.

Laura Peters and Jamon Van Den Hoek continue this critique of international law by focusing on the injustices of climate-induced risk in refugee camps. They demonstrate how international policies, such as the practice of “warehousing,” trap people in precarious conditions by preventing settlement in new areas located out of harm’s way or restrict refugees from moving to safer, neighboring communities. The authors also note the translocation of refugees may create its own set of vulnerabilities. They describe, for example, the plight of a million Rohingya refugees in Bangladesh who were displaced due to human rights violations and extreme violence in Myanmar, but who now live in overcrowded refugee camps exposed to flooding and landslides. While their conditions in the refugee camps are untenable, their planned relocation to the floating Island of

Bhasan Char in the Bay of Bengal raises several justice concerns. This is because the island is vulnerable to tidal waves and tropical cyclones and could be inundated in a few years. Peters and Van Den Hoek offer a framework for designing planned relocations that incorporates multiple dimensions of justice (distributive, procedural, and restorative) and promotes the agency, dignity, and security of refugees.

Legal frameworks offer opportunities to support relocation, but they can also be a constraint when rigid formality fails to adapt to physically *shifting landscapes*. Along the Brahmaputra River in India, Kevin Inks demonstrates how coastal and river landscapes do not conform to formal cadastral surveying and legal interpretations of land ownership or property rights. The Brahmaputra is one of the most geophysically dynamic braided rivers on the planet, and its land is frequently swallowed and recreated through an interplay of erosion and deposition. Faced with seasonal flooding and temporary displacement, riverine communities in the area seek to relocate permanently, but the government resettlement program based on formal practices of land surveyance and documentation preclude many residents from eligibility for resettlement support. Inks offers an insightful critique of the cartographic technologies employed by the state and proposes a fluid understanding of coastal landscapes and land ownership in the context of climate-induced resettlement programs.

Maggie Tsang and Isaac Stein build on this concept of land-in-motion by providing a fresh perspective on how we might rethink retreat through decoupling concepts of land, loss, and property value. Based on case studies in Hatteras Island, North Carolina, and Miami-Dade County, Florida, the authors demonstrate the mutability of land resulting from natural undulation and urbanization processes. The authors argue that retreating coastlines may be a natural coastal defense that protects cities from flooding; meaning land losses should be viewed from a geological and ecological perspective rather than an economic one focused on real estate market growth and municipal budgets.

Flexible legal tools and frameworks may enable communities to relocate, but they may also inspire resistance when community needs are not addressed. Focusing on three communities in the Lower Shire Valley of Malawi, Hebe Nicholson illustrates how a government-labeled “no-go-zone” and disinvestment invigorated people to fight against relocation rather than persuade them to leave. Others used resistance strategies to reappropriate autonomy in retreat plans and re-center their needs. Through poetry, Nikki Dela Rosa conveys the efforts of the Lumad, an Austronesian Indigenous people in the Philippines, to prevent forcible relocation from their mineral-rich coastal island. Mining activities have decimated the community, and temporary relocation destabilizes their daily lives and exposes them to assault, discrimination, and violence. Despite these challenges, the community continues to fight for their rights as the original custodians of the land.

Relocation is a process that requires *navigating transition* and experiences. Beatrice Ruggieri draws on a social justice framework and gender lens to examine relocation decisions in the Tabuya coastal community in Fiji. Wanting to

maintain autonomy over the process, and thereby protect their culture and livelihoods, villagers initially rejected external assistance for relocation. However, considering the enormous cost and logistics required in community relocation, the village eventually made the controversial decision to request government support. Decision-making in rural Fijian communities, Ruggieri notes, have frequently been subject to hierarchical and seniority systems that privilege men and older people (see also Neef et al., 2018). In Tabuya, the process allowed for performative inclusion and participation by women but decision-making remained dominated by men who are traditional landowners.

Intracommunity relations and power dynamics play an important role in relocation. Duvan López Meneses, Arabella Fraser, and Sonia Hita Cañadas present testimonies of Arraigo members in Bogota, Colombia – a network of neighborhood organizations, social leaders, scholars, volunteers and activists, and informal settlers – to demonstrate how the right to stay or resettle is mediated by power and political discourses. In particular, how risk is defined and by whom has significant consequences for people. For example, children may be taken away from parents living in areas defined as “nonmitigable risk.” Building improvements may also be prohibited in such areas, thus exposing residents to future risk. The decision to relocate is not a simple one: Some residents had to wait more than a decade for support and some never received support or received too little. Such actions can entrench existing inequalities while trapping residents in a state of liminality and destitution.

Lack of support during and after relocation is central to Deborah Morris’s description of how planned retreat programs in New York after Hurricane Sandy exacerbated social vulnerability. Renters displaced by property acquisitions struggled to find safe and affordable housing in a city plagued by a housing crisis. Relocation programs are legally required to provide resettlement assistance and temporary rent subsidies, but administrators applied these provisions inconsistently, and support was often insufficient to enable tenants to find permanent housing. Morris draws from her experience administering one of these programs to argue that planned retreat efforts must consider a wide range of social vulnerabilities beyond risk exposure and must relate to larger debates about affordable housing, poverty reduction, and access to social services.

Inability to access resettlement resources can result in *displacement without relocation*, as Oana Stefanu’s study on Ghoramara Island, India, shows. Although residents have identified wholesale relocation as their preferred strategy to address persistent flooding, disappearing lands, and depleted livelihoods, the community has received no external support. The marginality and obscurity of these impoverished communities have led to state abandonment, which the community sees as a form of disposability and violence. People on the island describe themselves as “trapped” - as the environmental threat increases, and their ability to escape decreases. In the case of Guyana, Dina Khadija Benn documents how government-led resettlement plans failed to address resident concerns about increased impoverishment, food insecurity, and splintering of community ties. The community designed their own relocation plans but, just as

in Fiji (Ruggieri) and India (Stefancu), these plans relied on funding and logistical support from government that was not forthcoming, thus leaving residents in a state of limbo.

In some cases, relocation of part of the community provided adaptation resources for the remaining residents, as in the case of migrant remittances. Haorui Wu and Catherine Bryan offer a narrative of the lived experience of Filipino migrant workers in Canada and how their remittances shaped disaster recovery and reconstruction in Leyte, Philippines, following Typhoon Haiyan. Wu and Bryan blur the lines between migration and planned retreat by demonstrating how formal policies and structures shape not only the migrant experience but also their relations with distant families. Indeed, treating migration as an individual-centered event may complicate consideration of important group dynamics such as extended family, community ties, and culture. Rachel Isacoff explores how competing cultural values, identities, and world-views shape relocation decisions and implementation. Using case studies of Kivalina, Alaska; Isle de Jean Charles, Louisiana; and Staten Island, New York, she juxtaposes the techno-managerial, individualistic, and econometric values that inform relocation decisions of experts and policy makers with local knowledge, group identity, and livelihood-based approaches prioritized by communities.

Although relocation poses numerous challenges to culture, community, livelihoods, and place attachment, relocation may also offer a space to *find hope*. Giovanna Gini and Erika Pires Ramos assemble the voices of members from the Comunidade Enseada da Baleia to explore the emotions that arose during their proactive and self-planned relocation on the Island of Cardoso, Brazil. Led by a coalition of women, a traditional artisanal fishing community faced with severe erosion, environmental degradation, and disappearing livelihoods. This group of women rechanneled their sense of loss into a fight for justice and for relocation on their terms. Their successful creation of Nova Enseada still involves nostalgia for their old home but also hope for the future. Such examples can provide hope not only for residents in communities facing relocation but also for former community members. Claire-Louise Vermandé reflects on how learning about the relocation of Grantham, Australia, affected her personal reflections on the potential loss and relocation of her hometown following major brushfires. Through sculpture and reflective essays, interspersed between sections of this volume, Martha Lerski explores the emotions of loss, nostalgia, family, identity, and the possibility of hope through change and the passage of time. Photos and comments from Anthropocene Alliance members facing severe and repetitive flood loss similarly illustrate a mix of loss and hope.

Finally, looking to the future, three papers explore how policy reforms, re-conceptualization, and communication strategies can inform planned retreat *moving forward*. Orrin H. Pilkey, Sarah Lipuma, and Norma Longo discuss the need for coherent relocation policies to account for historical injustices, cultural context, and heritage sites. While acknowledging the cultural and structural challenges ahead, they draw hope for reform in the United States from examples

where retreat has preserved heritage. They argue for future plans to take a robust and long-term perspective to relocation. Situating retreat in a history of adaptation and techno-optimism, Patrick Marchman explores the emerging discourse of climate relocation as a third wave of response compared to earlier discussions on mitigation and adaptation. He questions the idea that climate change can be planned in ways that do not threaten current development patterns and economic growth pathways. Unlike adaptation in place, relocation forces people to reckon with the physical, economic, cultural, and social reality of climate change, and this, the author argues, may be a force for good, leading people to embrace a simpler, just, and more sustainable existence.

In the final chapter, Susanne Moser offers a variety of strategies for communicating relocation. Rather than focusing on the “right words” (Chapter One by Baja), Moser calls for an investigation of human needs throughout the relocation process, noting these needs are complex and complicated by underlying histories, racist legacies, current socioeconomic realities, attachments to place, and personal emotions. This chapter takes us on a journey that sketches out the deeply human, psychological, and relational needs entangled in communicating relocation.

The chapters of this volume present global examples of the complicated processes and contexts in which planned retreat will occur. Individually, each chapter introduces a new case, story, or lens on the relocation discussion. As a collection, the volume aims to challenge readers’ pre-conceptions about planned retreat by juxtaposing different disciplines, lenses, and media – and by consistently grounding the conversation in the human experience. Leaders will increasingly be called upon – at local, national, and international levels – to support, prevent, direct, or facilitate movement within and across borders in all of these complicated contexts. Each of our authors provide recommendations through their contributions, based on extensive research or experience, for how leaders (academics, practitioners, and policy makers) can improve future climate relocation programs. Although each case of climate-induced movement is unique, forged by the history of the land and people, common recommendations include empowering local communities and marginalized groups, adopting long-term planning horizons that make space for impermanence, designing relocations to address well-being beyond physical security, and explicitly centering values and justice in decision-making processes. These recommendations are by no means exhaustive; rather than purport to provide a blueprint for planned retreat, this volume seeks to complicate the discussion and highlight how the past and present will shape our future.

## References

- Abel, G. J. (2018). Estimates of global bilateral migration flows by gender between 1960 and 2015. *International Migration Review*, 52, 809–852. 10.1111/imre.12327.

- Affif, T., Govil, R., Sakdapolrak, P., & Warner, K. (2012). *Climate change, vulnerability and human mobility: Perspectives of refugees from the East and Horn of Africa*. UNHCR UN Refugee Agency.
- Ajibade, I. (2019). Planned retreat in Global South megacities: Disentangling policy, practice, and environmental justice. *Climatic Change*, 157(2), 299–317.
- Ajibade, I., McBean, G., & Bezner-Kerr, R. (2013). Urban flooding in Lagos, Nigeria: Patterns of vulnerability and resilience among women. *Global Environmental Change*, 23(6), 1714–1725.
- Ajibade, I., Sullivan, M., & Haeffner, M. (2020). Why climate migration is not planned retreat: Six justifications. *Global Environmental Change*, 65, 102187.
- Albert, S., Bronen, R., Tooler, N., Leon, J., Yee, D., Ash, J., Boseto, D., & Grinham, A. (2018). Heading for the hills: Climate-driven community relocations in the Solomon Islands and Alaska provide insight for a 1.5 C future. *Regional Environmental Change*, 18(8), 2261–2272.
- Arnall, A. (2019). Resettlement as climate change adaptation: What can be learned from state-led relocation in rural Africa and Asia? *Climate and Development*, 11(3), 253–263.
- Alvarez, M. K., & Cardenas, K. (2019). Evicting slums, 'building back better': Resiliency revanchism and disaster risk management in Manila. *International Journal of Urban and Regional Research*, 43(2), 227–249.
- Barry, B. (1989). *Theories of justice: A treatise on social justice*. Harvester-Wheatsheaf.
- Bower, E., & Weerasinghe, S. (2021). *Leaving place, restoring home: Enhancing the evidence base on planned relocation cases in the context of hazards, disasters, and climate change*. Platform on Disaster Displacement and Andrew & Renata Kaldor Centre for International Refugee Law.
- Butterbaugh, L. (2005). Why did Hurricane Katrina hit women so hard? *Off Our Backs*, 35(9/10), 17–19.
- Bullard, R. D. (1996). Environmental justice: It's more than waste facility siting. *Social Science Quarterly*, 77(3), 493–499.
- Bullard, R. D., & Wright, B. (Eds.). (2009). *Race, place, and environmental justice after Hurricane Katrina: Struggles to reclaim, rebuild, and revitalize New Orleans and the Gulf Coast*. Perseus Books.
- Connell, J., & Lutkehaus, N. (2017). Environmental refugees? A tale of two resettlement projects in coastal Papua New Guinea. *Australian Geographer*, 48, 1–17.
- Crenshaw, K. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241. 10.2307/1229039
- Cronin, V., & Guthrie, P. (2011). Community-led resettlement: From a flood-affected slum to a new society in Pune, India. *Environmental Hazards*, 10(3-4), 310–326.
- Das, S., & Hazra, S. (2020). Trapped or resettled: Coastal communities in the Sundarbans Delta, India. *Forced Migration Review*, 64, 15–17.
- Davis, J., Moulton, A., Van Sant, L., & Williams, B. (2018). Anthropocene, capitalocene, ... plationocene? A manifesto for ecological justice in an age of global crises. *Geography Compass*, 13, e12438.
- Dube, T., Intauno, S., Moyo, P., & Phiri, K. (2017). The gender-differentiated impacts of climate change on rural livelihoods labour requirements in Southern Zimbabwe. *Journal of Human Ecology*, 58, 48–56.

- Farbotko, C., Dun, O., Thornton, F., McNamara, K. E., & McMichael, C. (2020). Relocation planning must address voluntary immobility. *Nature Climate Change*, *10*(8), 702–704.
- Ferris, E., & Weerasinghe, S. (2020). Promoting human security: Planned relocation as a protection tool in a time of climate change. *Journal on Migration and Human Security*, *8*(2), 134–149.
- Forsyth, A., & Peiser, R. (2021). Lessons from planned resettlement and new town experiences for avoiding climate sprawl. *Landscape and Urban Planning*, *205*, 103957.
- Gebauer, C., & DoevenSpeck, M. (2015). Adaptation to climate change and resettlement in Rwanda. *Area*, *47*, 12168. 10.1111/area.12168
- Greiving, S., Du, J., & Puntub, W. (2018). Planned retreat—A strategy for the mitigation of disaster risks with international and comparative perspectives. *Journal of Extreme Events*, *5*, 1850011.
- Hammond, L. (2008). Strategies of invisibilization: How Ethiopia's resettlement programme hides the poorest of the poor. *Journal of Refugee Studies*, *21*(4), 517–536.
- Hino, M., Field, C. B., & Mach, K. J. (2017). Planned retreat as a response to natural hazard risk. *Nature Climate Change*, *7*(5), 364–370.
- Hoang, T., & Noy, I. (2020). Wellbeing after a managed retreat: Observations from a large New Zealand program. *International Journal of Disaster Risk Reduction*, *48*, 101589.
- Huang, S. M. (2018). Heritage and post-disaster recovery: Indigenous community resilience. *Natural Hazards Review*, *19*(4), 05018008.
- International Displacement and Monitoring Center. (2018). Global Report on Internal Displacement. <https://www.internal-displacement.org/global-report/grid2018/>
- Institute for Economics & Peace (IEP). (n.d.). *IEP: Over one billion people at threat of being displaced by 2050 due to environmental change, conflict and civil unrest*. Retrieved April 30, 2021, from <https://www.prnewswire.com/news-releases/iep-over-one-billion-people-at-threat-of-being-displaced-by-2050-due-to-environmental-change-conflict-and-civil-unrest-301125350.html>
- Jamero, Ma. L., Onuki, M., Esteban, M., Chadwick, C., Tan, N., Valenzuela, V. P., Crichton, R., & Avelino, J. E. (2019). In-situ adaptation against climate change can enable relocation of impoverished small islands. *Marine Policy*, *108*, 103614.
- King, D., Bird, D., Haynes, K., Boon, H., Cottrell, A., Millar, J., Okada, T., Box, P., Keogh, D., & Thomas, M. (2014). Voluntary relocation as an adaptation strategy to extreme weather events. *International Journal of Disaster Risk Reduction*, *8*, 83–90.
- Kochnowar, D., Reddy, S. M. W. W., & Flick, R. E. (2015). Factors influencing local decisions to use habitats to protect coastal communities from hazards. *Ocean and Coastal Management*, *116*, 277–290.
- Koslov, L., Merdjanoff, A., Sulakshana, E., & Klinenberg, E. (2021). When rebuilding no longer means recovery: The stress of staying put after Hurricane Sandy. *Climatic Change*, *165*(3), 1–21. 10.1007/s10584-021-03069-1.
- Koubi, V., Spilker, G., Schaffer, L., & Böhmelt, T. (2016). The role of environmental perceptions in migration decision-making: Evidence from both migrants and non-migrants in five developing countries. *Population and Environment*, *38*(2), 134–163.
- Lama, P., Hamza, M., & Wester, M. (2020). Gendered dimensions of migration in relation to climate change. *Climate and Development*, *13*(4), 326–336.
- Linnenluecke, M. K., Stathakis, A., & Griffiths, A. (2011). Firm relocation as adaptive response to climate change and weather extremes. *Global Environmental Change*, *21*(1), 123–133.

- Mach, K. J., Kraan, C. M., Hino, M., Siders, A. R., Johnston, E. M., & Field, C. B. (2019). Planned retreat through voluntary buyouts of flood-prone properties. *Science Advances*, 5(10), eaax8995.
- Mafaranga, H. (2021). Landslides mar the “Pearl of Africa”. *EOS*, 102. 10.1029/2021EO157124. Published on 19 April 2021.
- Marino, E. (2018). Adaptation privilege and voluntary buyouts: Perspectives on ethnocentrism in sea level rise relocation and retreat policies in the US. *Global Environmental Change*, 49, 10–13.
- Marter-Kenyon, J. (2020). Origins and functions of climate-related relocation: An analytical review. *The Anthropocene Review*, 7(2), 159–188.
- McAdam, J. (2014). Historical cross-border relocations in the Pacific: Lessons for planned relocations in the context of climate change. *The Journal of Pacific History*, 49(3), 301–327.
- McCauley, D., & Heffron, R. (2018). Just transition: Integrating climate, energy and environmental justice. *Energy Policy*, 119, 1–7.
- McLeman, R., & Smit, B. (2006). Migration as an adaptation to climate change. *Climatic Change*, 76(1), 31–53.
- McMichael, C., & Katonivualiku, M. (2020). Thick temporalities of planned relocation in Fiji. *Geoforum*, 108, 286–294.
- McMichael, C., Katonivualiku, M., & Powell, T. (2019). Planned relocation and everyday agency in low-lying coastal villages in Fiji. *The Geographical Journal*, 185(3), 325–337.
- McNamara, K. E., Bronen, R., Fernando, N., & Klepp, S. (2018). The complex decision-making of climate-induced relocation: Adaptation and loss and damage. *Climate Policy*, 18(1), 111–117.
- Miller, F. (2020). Exploring the consequences of climate-related displacement for just resilience in Vietnam. *Urban Studies*, 57(7), 1570–1587.
- Neef, A., Bengé, L., Boruff, B., Pauli, N., Weber, E., & Varea, R. (2018). Climate adaptation strategies in Fiji: The role of social norms and cultural values. *World Development*, 107, 125–137.
- Niven, R. J., & Bardsley, D. K. (2013). Planned retreat as a management response to coastal risk: A case study from the Fleurieu Peninsula, South Australia. *Regional Environmental Change*, 13(1), 193–209.
- Nizami, A., Ali, J., & Zulfqar, M. (2019). Climate change, hydro-meteorological hazards and adaptation for sustainable livelihood in Chitral Pakistan. *Sarhad Journal of Agriculture*, 35(2), 432–441.
- Parks, B. C., & Roberts, J. T. (2006). Environmental and ecological justice. In M. M. Betsill, K. Hochstetler, & S. Demitris (Eds.), *Palgrave advances in international environmental politics* (pp. 329–360). Palgrave Macmillan.
- Piggott-McKellar, A. E., Pearson, J., McNamara, K. E., & Nunn, P. D. (2020). A livelihood analysis of resettlement outcomes: Lessons for climate-induced relocations. *Ambio*, 49(9), 1474–1489.
- Pinter, N. & Rees, J. C. (2021). Assessing planned flood retreat and community relocation in the Midwest USA. *Natural Hazards*, 107, 497–518.
- Putido, L. (2000). Rethinking environmental racism: White privilege and urban development in Southern California. *Annals of the Association of American Geographers*, 90(1), 12–40.
- Rawls, J. (1971). *A theory of justice*. Harvard University Press.



- Reisinger, A., Lawrence, J., Hart, G., & Chapman, R. (2014). From coping to resilience: The role of planned retreat in highly developed coastal regions. In B. Glavovic, R. Kaye, M. Kelly, & A. Travers (Eds.), *Climate change and the coast: Building resilient communities* (pp. 285–310). CRC Press.
- Schell, C. J., Dyson, K., Fuentes, T. L., Des Roches, S., Harris, N. C., Miller, D. S., Woelfle-Erskine, C. A., & Lambert, M. R. (2020). The ecological and evolutionary consequences of systemic racism in urban environments. *Science*, 369(6510), eaay4497.
- Schlosberg, D. (2003). The justice of environmental justice: Reconciling equity, recognition, and participation in a political movement. *Environmental Politics*, 13(3), 517–540.
- Schlosberg, D., & Collins, L. B. (2014). From environmental to climate justice: Climate change and the discourse of environmental justice. *Wiley Interdisciplinary Reviews: Climate Change*, 5(3), 359–374.
- See, J., & Wilmsen, B. (2020). Just adaptation? Generating new vulnerabilities and shaping adaptive capacities through the politics of climate-related resettlement in a Philippine coastal city. *Global Environmental Change*, 65, 102188.
- Seebauer, S., & Winkler, C. (2020). Should I stay or should I go? Factors in household decisions for or against relocation from a flood risk area. *Global Environmental Change*, 60, 102018.
- Siders, A. R. (2019a). Planned retreat in the United States. *One Earth*, 1(2), 216–225.
- Siders, A. R. (2019b). Social justice implications of US planned retreat buyout programs. *Climatic Change*, 152(2), 239–257.
- Siders, A. R., & Ajibade, I. (2021). Introduction: Social and environmental justice challenges and practices in global planned retreat. *Journal of Environmental Studies and Sciences*, 1–7. 10.1007/s13412-021-00700-6.
- Sipe, N., & Vella, K. (2014). Relocating a flood-affected community: Good planning or good politics? *Journal of the American Planning Association*, 80(4), 400–412.
- Smyth, I., & Sweetman, C. (2015). Introduction: Gender and resilience. *Gender & Development*, 23(3), 405–414.
- Steckley, M., & Steckley, J. (2019). Post-earthquake land appropriations and the dispossession of rural women in Haiti. *Feminist Economics*, 25(4), 45–67.
- Sultana, F. (2011). Suffering for water, suffering from water: Emotional geographies of resource access, control and conflict. *Geoforum*, 42(2), 163–172.
- Tessum, C. W., Apte, J. S., Goodkind, A. L., Muller, N. Z., Mullins, K. A., Paoella, D. A., Polasky, S., Springer, N. P., Thakrar, S. K., Marshall, J. D., & Hill, J. D. (2019). Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure. *Proceedings of the National Academy of Sciences*, 116(13), 6001–6006.
- Thaler, T., & Fuchs, S. (2020). Financial recovery schemes in Austria: How planned relocation is used as an answer to future flood events. *Environmental Hazards*, 19(3), 268–284.
- United Nations Disaster Risk Reduction. (2020). Annual report capturing output and impact for 2020. <https://www.undrr.org/publication/undrr-annual-report-2020>
- Vaz-Jones, L. (2018). Struggles over land, livelihood, and future possibilities: Reframing displacement through feminist political ecology. *Signs: Journal of Women in Culture and Society*, 43(3), 711–735.
- Vincent, K., de Campos, R. S., Lázár, A. N., & Begum, A. (2021). Gender, migration and environmental change in the Ganges-Brahmaputra-Meghna delta in Bangladesh.

- In A. Hans, N. Rao, A. Prakash, & A. Patel (Eds.), *Engendering climate change* (pp. 152–171). Routledge.
- Warner, K., Afifi, T., Kälin, W., Leckie, S., Ferris, B., Martin, S. F., & Wrathall, D. (2013). *Changing climate, moving people: Framing migration, displacement and planned relocation*. UNU-EHS.
- Wijsman, K., & Feagan, M. (2019). Rethinking knowledge systems for urban resilience: Feminist and decolonial contributions to just transformations. *Environmental Science & Policy*, 98, 70–76.
- Yila, J. O., & Resurreccion, B. P. (2013). Determinants of smallholder farmers' adaptation strategies to climate change in the semi-arid Nguru Local Government Area, Northeastern Nigeria. *Management of Environmental Quality: An International Journal*, 24(3), 341–364.
- Zavar, E., Hagelman, R. R., & Hagelman III, R. R. (2016). Land use change on U.S. floodplain buyout sites, 1990–2000. *Disaster Prevention and Management*, 25(3), 360–374.