

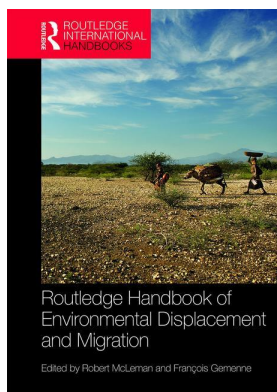
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Mobility, displacement and migration, and their interactions with vulnerability and adaptation to environmental risks

W. Neil Adger, Ricardo Safra de Campos and Colette Mortreux

Introduction

The world is changing, and changing fast. It is changing in both earth system processes and in cumulated social dynamics: we may even be approaching irreversible and profound changes to many environmental processes at the planetary scale. One of the principal changes is to the world's oceans and atmosphere that will bring about disrupted climates. Even with climate and ecosystem changes being well documented, it is always difficult to perceive them as significant, compared to where and how we live. As humans, it is easiest to perceive change in places and phenomena that are familiar to us. Often it is the growth of settlements, economic development and alteration of human-made and natural landscapes that catch our eye.

The human world is at the same time becoming more mobile, through both the movement of people and through the actual and virtual movement of people, goods, services and information (Adger, Eakin and Winkels 2009). The two phenomena, of mobility and systemic environmental change, are inextricably linked in both cause and effect. Hence, mobility should be a central element of all analysis of responses to climate change, for both mitigation of the causes of climate change through reducing greenhouse gas emissions to the atmosphere and for adapting to climatic changes and its cascading effect through ecosystems and the human world. This chapter therefore focuses on how climate change risks affect migration and displacement patterns, and how those are observed, researched and understood.

Mobility is multi-faceted. Migration and displacement are in effect two elements of vulnerability and adaptation to climate change. A large body of research has highlighted how people and places are vulnerable to the effects of climate change if they are exposed to such risks, are sensitive to such risks and lack the adaptive capacity to effectively deal with them (Füssel and Klein 2006). Individuals, communities and economic sectors adapt to climate change risks in a number of ways: through reinforcing and protecting the places and infrastructures that are exposed, or by reducing the risks, and sometimes by moving location. Places matter, because

they are where we perceive change to occur and because they are the sites for investment in natural and built capital that makes them attractive for living. Places are also social constructs that imbue lives with meaning and security. Hence both migration (as a form of adaptation) and displacement (as a manifestation of vulnerability) are central to how climate change is to be experienced and adapted to in every region of the world.

Displacement is used here to focus on the involuntary and unforeseen movement of people from their place of residence due to weather-related impacts on property and infrastructure. Such movement is most often temporary and short-lived, but it is often highly disruptive and traumatic to those involved. Displacement from floods, droughts and wildfire is common throughout the world, with estimates of the number of people affected by weather-related extremes of over 20 million per year over the most recent decade (Internal Displacement Monitoring Center and Norwegian Refugee Council 2014). Importantly, all the climate phenomena that cause economic disruption and displacement – mainly drought, wildfire and floods – are projected to increase in intensity or frequency in many parts of the world as a result of climate change (Intergovernmental Panel on Climate Change 2014). Weather disasters are, in effect, how climate change will be experienced in place.

The term migration is used here to mean a permanent or semi-permanent movement of place of residence of an individual, recognising its economic and social dynamics. Climate change affects migration patterns by altering the landscape of economic incentives and options for individuals in both source and destination areas, and directly by altering the risks that people face. Displacement and migration are not discreet, but interrelated.

Vulnerability to environmental risks

Spatial and temporal continuum between displacement and migration

Mobility occurs along a spatiotemporal continuum which ranges from temporary moves to permanent relocation. Both displacement and migration are located within this continuum, and represent distinct facets of vulnerability to environmental risk (Hugo 1996). However, a clear distinction between the two is based on the voluntary nature of movement and the ability to exercise choice. In situations of displacement, people are forced to leave because their lives and livelihood are at risk to an extreme environmental hazard. Similarly, populations are involuntarily displaced because of land acquisition for development projects such as hydropower damming and mineral extraction, or from violent conflict (Cernea 1996; Barnett and Adger 2007; Wilmsen and Webber 2015).

Migration, in contrast to displacement, involves a conscious decision to change place of residence. The reasons may be numerous and interrelated, and may include minimising exposure to risks associated with water shortages or declining agricultural productivity or fisheries, or macro external factors such as volatility of markets or economic recession. Migration is also employed to reduce household consumption and maximise income opportunities through livelihood diversification (Stark and Taylor 1991; Ellis 2000).

Displacement and migration, as we define them here, interact in a number of ways with climate change at different spatial and temporal scales. Figure 3.1 portrays these relationships, showing that there is a spectrum of reactive movement and proactive movement, and part of the explanation for how migration unfolds may be the speed and duration of climate change events. The arrows in Figure 3.1 represent how mobility responses may change over time following climate events. Hence displacement is largely reactive and involuntary when associated with short-term weather events, leading to mainly temporary movements of relatively short distance.

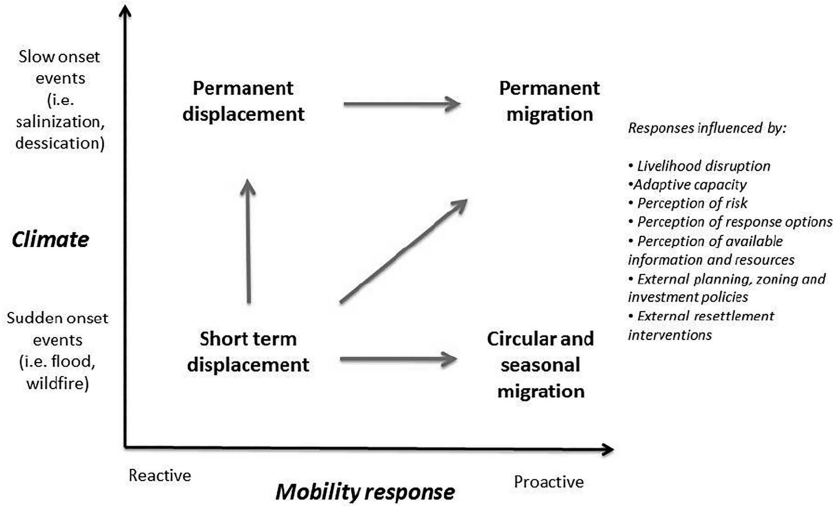


Figure 3.1 Migration and displacement interacting with sudden-onset and slow-onset climatic events

Displacement here is principally a short term unforeseen involuntary movement of populations from residence as a consequence of weather-related events. Migration involves deliberate and planned movement associated with changing attractiveness of places.

Conversely, slow-onset climate change events are more likely to lead to permanent migration. Mechanisms of regulation, markets and investment patterns can assist in shifting to more permanent settlement patterns – sending signals on the place utility and the attractiveness of places at risk such as exposed coastal zones or marginal agricultural areas.

Environmentally related displacement is often caused by sudden-onset events such as earthquakes and hurricanes, which combined with low levels of socioeconomic resilience of individuals and communities results in moves of unique spatiotemporal signature often involving return to place of origin. The 2010 earthquake in Haiti and the 2004 tsunami in Indonesia are examples of sudden-onset events that triggered the displacement of thousands of people across these two regions. Even when environmental hazards are concentrated in one specific location, impacts on migration outcomes can be significant. The impacts of Hurricane Katrina and Hurricane Rita on Louisiana in the US in 2005 produced significant temporary displacement. In addition, the temporary displacement has had major implications for long term movement and demographic patterns in the state. The large majority of residents of New Orleans evacuated the city before Katrina’s landfall, and while a significant number of returnees have been recorded in census estimates, many people who left have not returned. Several studies have examined the spatial distribution of evacuees, the decision-making process behind the duration of relocation and choice of destination (McIntosh 2008; Fussell, Sastry and Van Landingham 2010; Groen and Polivka 2010). Those most severely impacted took longer to return to New Orleans or relocated permanently to other areas in the US. Long-term climatic risks like those in Louisiana can be managed through anticipatory planning, zoning and investment policies. Policy interventions might also bring about significant migration outcomes. For example, the Louisiana Comprehensive Master Plan for a Sustainable Coast released in 2012 involves recommendations on assisted migration of residents and compulsory purchase of land to be set aside (Barbier 2015: 287).

Discrete forms of migration – such as seasonal, circular, permanent movements – are widely recognised as key strategies to maintain livelihoods and adapt to the effects of climate variability, particularly in resource-based economies (Ellis 2000). Recent studies investigating the environment–migration nexus are beginning to construct a clearer picture of this relationship. Research has moved away from a linear connection to a multifaceted approach that acknowledges that factors driving migration go beyond climate change and other environmental hazards. Furthermore, current research seeks to expand on the notion of migration as adaptation to climate change by including cultural dimensions such as place attachment and community cohesion (Adger et al. 2013).

The body of knowledge on climate change impacts and options for adaptation is increasingly taking elements of demographic change and migration as adaptation into account. The IPCC's Fifth Assessment Report makes a strong case for the capacity of mobility responses to reduce vulnerability for populations exposed to extreme weather events and longer-term climate variability and change (Adger et al. 2014). This moves beyond seeking estimates of displacement as the only relevant interaction between migration and climate change.

Inverse relationships between vulnerability and mobility

The projected impacts of global environmental change are likely to be experienced worldwide. However, some areas are more vulnerable to impacts than others, and will be exposed to a different magnitude or rate of climate variation. Vulnerability can be broadly defined as the degree to which a system is susceptible to and is unable to cope with the adverse effects of environmental change. Therefore, vulnerability to climate change can be represented as a function of exposure, sensitivity and adaptive capacity (Füssel and Klein 2006). In other words, the greater the exposure or sensitivity, the greater is the vulnerability. However, adaptive capacity is inversely related to vulnerability. So, the greater the adaptive capacity, the lesser the vulnerability.

Thus, examining the concept of vulnerability of places becomes central to the study of the environment–migration nexus. Equally important is the notion that vulnerability to environmental change does not exist in isolation from the wider political economy of resource use and inadvertent or deliberate human interactions with natural variances of ecological systems (Adger 2006).

Inevitably, these factors suggest a complex relationship between vulnerability to climate change and mobility. Many studies of climate-related hazards indeed show complex causal relationships, with both increasing and decreasing migration outcomes associated with similar drivers. So drought, for example, in some circumstances appears to stimulate forms of migration, while in other instances reduced mobility and migration are observed. And the temporal and spatial dynamics of hazards also matter. Gray and Mueller (2012) show for Bangladesh, for example, that crop failure is positively associated with out-migration, while cyclones produce no discernible net out-migration.

Shocks and climate-related hazards reduce and disrupt income-generating activity, and also potentially destroy assets. Hence, such impacts affect the resources that facilitate mobility as well as defining vulnerability. Building on these insights, an emerging paradigm suggests that vulnerability and mobility are inversely related (Black et al. 2013). Parts of populations that are highly exposed also have low adaptive capacity are precisely those parts of the population that have the fewest options and fewest resources to allow them to move away and reduce exposure. Evidence from the Gulf States in the US over the past three decades, for example, shows segmented withdrawal of populations after hurricane damage: economically advantaged groups have left, while vulnerable populations have not had the resources to move (Logan, Issar and Xu 2016).

The implications of such a relationship are that climate change will in some sense trap vulnerable populations in exposed regions. Such circumstances will inevitably increase the demand for humanitarian interventions and assistance in vulnerable regions. It further demonstrates how migration needs to be incorporated into models and policies for adaptation to climate risks.

Vulnerability of places to environmental risks

As discussed in the previous section, the fundamental causes of vulnerability are structures in the economy and asymmetry of power in societies, behavioural and institutional phenomena, and the ability to respond to external stresses. While there are many ways to evaluate relative vulnerability of populations and places to climate change, one key lesson stands out: no place or no population is immune from the impacts of future climate change. This is because of the multiple direct and indirect means by which climate change impacts affect life and livelihood, as well as the constructed meaning of place. Hence, regions may be more vulnerable to climate change impacts through lack of adaptive capacity, through major direct health implications and liveability of their current places, or more indirectly through price and scarcity signals (Intergovernmental Panel on Climate Change 2014).

Despite this highly uneven landscape of risk, some studies have specifically highlighted potential areas where migration and displacement may be more immediate and apparent (see Afifi and Jäger 2010; Warner and Afifi 2014). De Sherbinin and colleagues (2012) showed that over the past recent decades net migration trends, when overlaid on ecological zones, have resulted in net in-migration to the world's coastal zones and net out-migration from drylands and mountain regions. Of course, these trends are explained through movement to cities. Nevertheless, coastal areas, drylands and mountain regions will continue to be critically vulnerable to climatic change impacts and will likely be the site of migration responses. Ahead, we summarise the likely effects of climate change on these geographical zones.

Low-elevation coastal zones are at risk from sea level rise and storm surges which may result in submergence of seafront settlements and increased flooding of coastal land, as well as salt-water intrusion of surface waters and groundwater (Nicholls and Cazenave 2010). Changes in the intensity and seasonality of cyclones and variance in rainfall regime are also likely to affect low-elevation coastal zones. Flooding in low-lying densely populated coastal areas is predominantly seasonal and usually short-lived, yet it can have significant impacts on vulnerable sections of society. For example, poor households living in high-risk areas might become displaced and forced to relocate to safer regions permanently. Alternatively, they might move temporarily seeking access to frontline services and alternative forms of income generation.

Climate projections for global drylands indicate a strong likelihood of amplified temperatures and reduced precipitation. Furthermore, the annual spatiotemporal distribution of precipitation is expected to change significantly, resulting in progressively long intervals without rain followed by short and highly unpredictable wet seasons in arid and semiarid regions with an increased likelihood of droughts (Stocker et al. 2014). Global drylands have been the focus of many studies investigating environmental signals to migration flows because of the high dependency on natural resources and progressive land degradation. Increasing populations, conflict over access to a diminishing natural resource base and recurrent drought are likely to intensify out-migration of persons from vulnerable places with limited capacity to cope or adapt to new conditions.

Mountain regions are projected to experience changes in precipitation regime, increased temperatures, reduced crop production, changes in glacier melt patterns and water scarcity in regions dependent on snowmelt (Foresight 2011). Nearly three-quarters of mountain populations living in rural areas in remote and fragile ecosystems are dependent on natural

resources. The inhabitants of these areas are likely to become exposed to increased inaccessibility to these resources. This might result in out-migration responses, predominantly to urban areas, as a way of averting risk associated with gradual deteriorating conditions and amplified vulnerability.

Vulnerability of destination areas and the crucible of risk in cities

Displacement and migration are potential response strategies to the various impacts of global environmental change. These mobility responses obviously involve consequences for destination areas, with potential amplification of trends of inward migration of populations impacted by extreme climatic events or gradual deterioration of environmental conditions. Most studies on environmental dimensions of migration focus on the drivers of mobility, focusing on locations that are likely to be most affected by global environmental change. Hence, there is more limited research on where migrants might move in response to both sudden-onset and slow-onset environmental events (Findlay 2011).

There is an assumption that the majority of environmentally driven mobility, particularly in the world's most vulnerable nations, will be restricted to internal movements with projected flows originating from marginal regions (Tacoli 2009; Barnett and Webber 2010). Under such a scenario, it is highly plausible that urban areas will be the main destination for such moves, as has been the case in the past with the urbanisation transition by those seeking better economic opportunities or fleeing political persecution, armed conflict or regional economic inequality.

Urban areas are increasingly exposed to the impacts of global environmental change, particularly in the case of sea level rise in low-lying coastal cities. These cities are home to 18 per cent of the world's total urban population and growing rapidly. The occurrence of sudden-onset events like hurricanes and flash flooding already trigger large-scale evacuation and population displacement, which is generally to nearby areas and over a short period of time. Other impacts such as coastal erosion due to storm surges or increasing stress due to water scarcity are also likely to become a cause for concern in urban areas.

The potential movement of populations into cities is also likely to generate cultural and socioeconomic implications. The destinations of where people move to are often predictable: existing social networks and historical linkages between sending and destination areas are the main factors. But migration has the potential to affect social cohesion in destination settlements and communities (Benson and O'Reilly 2009; Skeldon 2014). New migrant populations can feel dislocated from norms and cultures in destination areas. Strong sense of attachment to communities of origin is shown to strengthen intra-community ties. But new populations and diversity are not universally positive: Putnam (2007) argued with data from the US that places with new populations often become more withdrawn. This finding spawned much research, which inevitably shows that whether new migrant populations can enhance the social cohesion of destination areas is contingent on many factors, many of which are amenable to social interventions (Portes and Vickstrom 2015).

Commonly, however, new migrant populations experience discrimination, seclusion and ghettoization in destination areas. This is observed in cities across the world, not least where resources and frontline services are not adequately provided by the public sector and employment opportunities are limited (McMichael, Barnett and McMichael 2012; Skeldon 2014).

In cases of deteriorating socioeconomic and environmental conditions in cities, the reduction of migrant inflows and the reversing of current flows or adoption of alternative forms of temporary mobility such as circular and short-term migration are alternatives to permanent

relocation. This is because the size and directions of population movements respond quickly to changes in local conditions in destination areas.

Adaptation and resilience: bringing in mobility

Social and policy implications of migration in relation to environmental change

Given the centrality of place, home and identity to lived experience, migration movements – whether involuntary or seemingly more voluntary – involves significant social cost and may increase the vulnerability of social groups and other sectors of society (Barnett and O’Neill 2010). Migration could be regarded as an adaptation failure where policies and programmes fail to provide local people with the opportunity to adapt without resorting to moving location. Yet, evidence shows that migration flows may actually enhance aggregate exposure to environmental risk by moving to more hazardous areas, not least in the trends towards urban areas.

All forms of population movement and associated social and political challenges are reflected in and conditioned by governance systems in both migrant source and destination areas (Geddes et al. 2012). Populations facing climatic or other environmental risks might choose to move away from their original locations to reduce their exposure to risk. Evidence shows that upon relocation, these migrants face material and social problems of landlessness, unemployment, homelessness, social marginalization, food insecurity, reduced access to common-property resources and increased morbidity (Cernea and McDowell 2000). These consequences are complex, adaptive, interconnected and marked by stark uncertainty. For example, a migrant household’s capacity to secure access to land and or commonly managed resources may be reduced in their new location, leading to a loss of income and food insecurity. These types of risks are well known, but intransigent.

Social risks resulting from migration are diverse and are equally intransigent for governance systems. Disruption of social cohesion and loss of place attachment have gained most attention by psychologists, geographers and sociologists. At the same time, continuity of place is an important component in maintaining or reinforcing identity and the sense of social cohesion within a community. Changes in identity represented by voluntary or involuntary change of locale are often associated with grief and strong sociocultural impacts related to loss. A study for returnees to Louisiana in the context of displacement from hurricanes by Simms (2017), for example, showed that the resilience of populations is significantly challenged by evacuation and return and positive place attachment may never recover for some individuals. Although the proactive choice to migrate to new places to diversify livelihoods and secure income can positively contribute to the adaptation process in the context of extreme climatic events and other environmental hazards, migration can also reduce these potential gains by increasing financial and emotional stress to both the migrant and persons left behind.

Much of the discussion about population movements associated with global environmental change has focused on exploring the drivers and conditions within which people voluntarily or involuntarily move. However, it is also important to recognise the negative outcomes of migration and displacement. Migrants face risks of further impoverishment as a result of moving, weakening socioeconomic structures in both source and destination communities. Table 3.1 highlights how both displacement and migration have significant implications for policy, planning and intervention. These include costs of urban planning and infrastructure in places that need to be protected (both potential sending and destination areas), through to overcoming social cohesion challenges in labour markets, housing and other sectors.

Table 3.1 Implications of migration and displacement for climate change adaptation strategies and their policy challenges

<i>Type of movement</i>	<i>Adaptation response</i>	<i>Policy and social implications</i>
Displacement (unforeseen and temporary)	Temporary displacement and return, rebuilding and recovery	Demand for humanitarian and public health assistance for internally and internationally displaced populations.
	Unplanned permanent migration	Impact on public services, labour markets and social cohesion in destination areas.
Migration	Investment to protect areas at risk from out-migration	Long term nature of protection, sunk costs, and impacts on insurance.
	Disinvestment in sending areas and planned resettlement	Impact on public services, labour markets and social cohesion in destination areas.

Under what circumstances does migration enhance system resilience?

Whilst much attention has been paid to migration as an involuntary imposition, or as a process with negative outcomes, migration has significant potential enhances the resilience of social and ecological systems. Migration can, for example, enhance resilience by supplementing incomes, diversifying livelihoods, spreading the exposure of people and their livelihoods to environmental risk, and building linkages between sending and receiving areas (Adger et al. 2002).

Rural households whose livelihoods are dependent on natural resources are highly vulnerable to environmental change. Migration allows such households to become more flexible and diversified in their livelihoods (Ellis 2003). In India, for example, seasonal migration for employment is a long-standing livelihood strategy for people in rural areas (Deshingkar and Start 2003). During off-peak seasons, migrants move temporarily to other areas, often migrating short distances, to engage in low-skilled jobs such as construction or rickshaw pulling and remit savings to support their family back home. By engaging in seasonal migration, these households reduce their dependency on a single livelihood, maintain their connection to their land without needing to migrate permanently, maintain social networks at home and build social networks away from home should they seek to migrate permanently in the future. Migration for the purposes of livelihood diversification will become increasingly important as households seek to adapt to climate change (Tacoli 2009).

Rural-urban migrants tend to have higher earning capacities compared to their place of origin. The increased income is beneficial for the resilience of the migrant but also, where remittances are sent, for the resilience of the sending area (Ackah and Medvedev 2012). Studies in Ghana demonstrate that remittance flows help to redistribute welfare and narrow the rural-urban welfare gap through migrant investments, including development projects in sending areas (Boakye-Yiadom 2008). Remittances act as a strategy for migrants to invest in assets for their family's wellbeing, and also act as a form of insurance should their migration experience prove unsuccessful and the migrant seeks to return (Amuedo-Dorantes and Pozo 2006). In this way, remittances build not only the resilience of the sending community, but also support migrants.

Migration enhances resilience by building linkages between sending and receiving areas (Levitt 1998). The movement of people between rural areas and urban areas helps increase the

flow of ideas, goods and services to otherwise marginalised rural areas. Where migrants return home, sending areas can benefit from the skills and experiences of migrants. Whereas brain drain effects are often highlighted as an issue for sending areas with high rates of out-migration, the skills, ideas and investments of migrants are most often in circulation, benefitting both destination and sending communities (Khonje 2015).

Finally, migration can enhance the resilience of destination communities. Where urban areas have labour shortages in low-skilled employment sectors, such as construction and transport services, migrants can help fill these gaps in the economy and promote growth in those sectors (Foresight 2011). For example, in India many farmers from West Bengal are migrating to Kerala to fill the gap left by Kerala residents who have migrated to the Middle East for higher-paying construction work (Kumar 2011).

Planning for migration as adaptation

The centuries-long trend of rural-to-urban migration may well be intensified by environmental changes in particular regions of the world where major movements are currently observed. Hence, there is a challenge to governance processes to proactively plan for migration through creating favourable conditions for voluntary movement (Foresight 2011; Tacoli 2009). Broad policy approaches to enable adaptive migration include: facilitating people to stay, enhancing policies and infrastructure for voluntary migration away from environmental risks, and planning for relocation. The legitimacy of individual strategies depends, it is argued, on upholding the principle of respect for the autonomy of individuals and their decisions of where and how they live (Warner et al. 2013). But all government decisions, whether they involve active investment and regulation or whether they consist of an absence of action, in effect lead to social outcomes that affect long-term welfare. If governments plan for migration and displacement proactively, there are, it seems, more pathways to positive outcomes for those affected by environmental change.

Where governments have planned for relocation of whole settlements, for example, there is growing evidence that inclusive processes that are perceived to be equitable ameliorate many negative impacts and outcomes of the disruption associated with resettlement (Bronen and Chapin 2013). The challenge for fair process is compounded when new communities and locations become affected by environmental change over time. Decades of research on resettlement processes and impacts have revealed that resettled communities have often become further impoverished as a result of resettlement (Chakrabarti and Dhar 2009; Wilmsen and Webber 2015). Planning guidelines such as the “Impoverishment Risks and Reconstruction” model (Cernea 1997) most often identify risks that resettlement pose to communities: landlessness, joblessness, homelessness, marginalisation, food insecurity, loss of access to common property resources, increased morbidity and community disarticulation.

By facilitating voluntary migration, governments and institutions assist individuals and households to leave areas highly exposed to climate risk and reduce the emergence of trapped populations. People and communities are trapped when they wish to migrate but are unable to do so because they lack the capacity to leave, for reasons including poor health or social networks. Black and colleagues describe trapped populations as facing a double set of risks whereby they are exposed to environmental risks and are unable to move away from them due to their socio-economic vulnerability (Black et al. 2013). The vulnerability of trapped populations is further exacerbated as they can be difficult to identify by institutions to provide the necessary support (Lubkemann 2008). By providing basic welfare support to poor and marginalised communities in areas exposed to environmental risk, governments and other institutions can help avoid the emergence of trapped populations (Black and Collyer 2014).

Urban areas are a critical focus of anticipatory planning as the majority of migration flows to urban areas, even taking into account the short-distance temporary migrations often associated with sudden-onset environmental events (Adamo 2010). Urban areas face pressure to accommodate incoming migrants, with the most vulnerable communities facing disproportionate pressure. Social tensions and conflicts can arise from unforeseen migration in urban areas, such as labour market conflicts, housing disputes, competition over scarce resources and expansion of informal settlements. These tensions, however, can be anticipated and planned for. Both migrants and receiving communities benefit from collaborative and community-building approaches, investments in sustainable development and strengthening of social welfare provisions (Black et al. 2013).

Policies to protect the human rights of internal migrants in particular include removing restrictions on movement, giving access to health and education services, and supporting housing needs. Failing to support migrant populations can exacerbate social tensions, as shown for example in Kerala in India. The Kerala state government has been assessed to have failed to acknowledge the presence of internal migrants from other states in India, such that migrants have few rights protected. National policies in India set the framework for entitlements to national benefits and schemes for those moving across states, but require local recognition (Kumar 2011). If migrants from other states are not recognised, rice subsidies and ration cards are not made accessible. The lack of recognition of migrants into Kerala has not altered the aggregate flow of migrants, but the lack of state support has been associated with tensions between local Kerala residents and migrants (Kumar 2011).

At an international scale, the rights of migrants are guided by initiatives such as the Kampala Convention and even in the Cancun Adaptation Framework. The UNHCR's Guiding Principles on Internal Displacement, for example, proposes actions to protect and assist displaced persons, though does not have the strength of international law (Kälin 2008; McAdam 2012).

Conclusions

The causes and landscape of who and what is vulnerable to unforeseen environmental change now and in the future are well known: environmental risks tend to amplify social structures and inequality in society. In this chapter we have emphasized how mobility, displacement and migration are key elements of this landscape of vulnerability and also represent major opportunities to minimize and manage risk as well as overcoming underlying structural inequalities. Yet, this is a tall order. Climate change and indeed current weather and environmental hazards pose major risks throughout the world, and will continue to be one of the emerging and disruptive forces causing temporary displacement and affecting long term migration patterns.

Migration, displacement and resettlement are clearly part of any landscape of adaptation to these changes over the incoming decades: yet migration is not socially neutral or simple. The fundamental issue of freedom and choice that links human security to environmental risks, is also central to the issue of migration and to the politics of recognition. Societies and communities need to be able to plan and construct their own futures and trajectories. The principles and evidence outlined here show how limiting choice and mobility may in fact be one of the fundamental potential social costs and consequences of climate change.

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