

Commentary

Urbanization, Migration, and Adaptation to Climate Change

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Climate change is reshaping the comparative advantage of regions and hence driving migration flows, principally toward urban areas. Migration has multiple benefits and costs in both origin and destination regions. Coordinated policies that recognize how and why people move can reduce future costs and facilitate adaptation to climate change both within borders and internationally.

Migration, defined as the movement of a person's principal location of residence either within countries or internationally, has been a driving force behind the expansion of urban areas. Contemporary migration flows are largely the result of both economic opportunities in cities and push factors from rural areas. In addition, people globally are increasingly choosing to, or being forced to, migrate because of climate change, most often to cities.¹ Current migration trends are likely to intensify as the effects of climate change become apparent. Although migration is one means of adapting to climate change, it comes with significant personal and societal costs in both origin and destination locations. In view of escalating climate change, there is an urgent need to develop institutions and policies within and across countries to effectively address the challenges and costs of unplanned migration. Such institutions and

policies, we argue, can reduce the overall costs of climate-related migration and facilitate better adaptation to climate change.

Migration Responses to Climate Change

Although there are more than 250 million international migrants globally, this represents only one-quarter of the total lifetime migrants. The dominant migration flow involves people moving within their own countries, most often from non-urban to urban areas and between towns and cities.² Migration is a pervasive and complex response to changing labor demand and to agricultural, demographic, and geopolitical conditions: it is credited with lifting large populations out of poverty in rapidly urbanizing countries. Although many people migrate by choice, involuntary migration, whether from conflict or from environmental catastrophes, is a matter of

survival. Such survival migration³ by refugees and internally displaced people (IDPs) has been increasing over the past decade (Figure 1), increasingly to cities: 60% of refugees and 80% of IDPs are currently located in urban areas.

Climate change is exacerbating survival migration. Almost 24 million people have been directly displaced by principally weather-related disasters each year on average over the past decade (Figure 1). The International Displacement Monitoring Centre reports that 9.8 million people were displaced by disasters in the first half of 2020 and that 280,000 people were displaced during early September 2020 from wildfires in the western United States alone. Future climate change impacts, including wildfires, storms, and droughts, will lead to greater temporary displacement and alter permanent migration flows. Macro-economic modeling by the World Bank estimates that more than

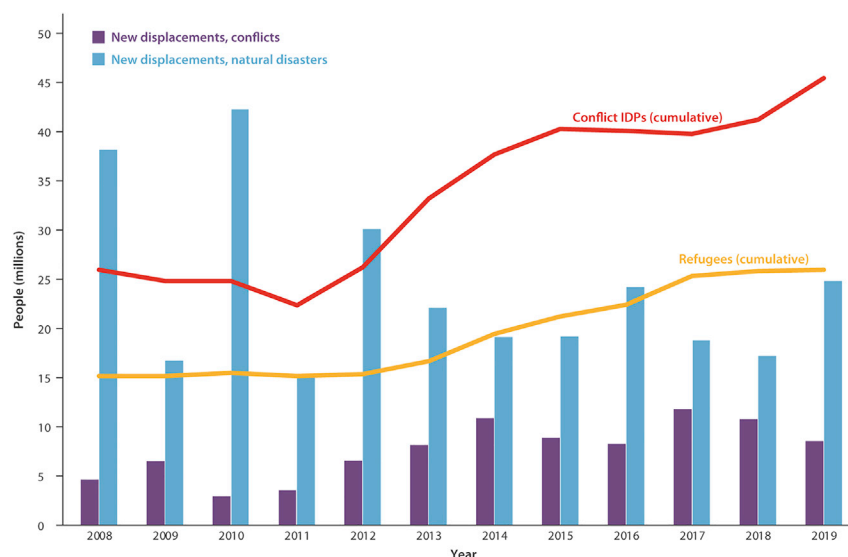


Figure 1. Global Rates of Disaster- and Conflict-Induced Displacement and Stocks of Global Refugees and Internally Displaced People, 2008–2019
Data are from the International Displacement Monitoring Centre (<http://www.internal-displacement.org>).

140 million people could potentially be directly displaced by climate change impacts by 2030 within their own countries.⁴

Climate change is, in effect, reshaping the comparative advantages of regions, making some places less productive and livable: when conditions and prospects become intolerable, people leave, most often to urban areas.⁵ Projections show radical changes in climate for large parts of currently populous regions. Up to one-third of the global population is located in places that by 2070 will be warmer than present day Sahara Desert regions (>29°C mean annual temperature).⁶ Further, projected expansion of urban areas will result in intensification of the urban heat island effect, on average 0.5°C–0.7°C but up to ~3°C in some cities.⁷ In addition, climate changes will directly lead to more involuntary flows and temporary displacement from climate disruptions and disasters.⁸ Displacement from disasters amplifies both internal and international longer-term migration. Climate change is inducing movement to cities and to so-called stepped migration: migrants to cities accumulate capital over a few years and then seek to move internationally.⁹

The appropriateness of different policy responses depends on the severity of the climate change threat and the underlying levels of mobility—whether people have the capacity and the legal right to move. Figure 2 depicts diverse migration chal-

lenges and the necessary interventions associated with different levels of mobility and climate risk. With severe climate impacts (e.g., upper-right quadrant), rural regions could become large sources of out-migration such that migrants move to urban areas, where climate risks themselves are escalating. In such circumstances, facilitating relocation and coordination among countries for international migration is most critical. Countries with aging demographic profiles will most likely seek to sustain their working-age populations through liberal immigration policies.¹⁰

Migration depends on individuals who have the resources and capacity to move. Further, newly arrived populations in many cities face considerable insecurity in terms of social exclusion and tend to cluster in low-cost locations exposed to environmental hazards, such as poor water quality or risks from landslides and floods. Figure 2 (upper-left quadrant) therefore shows that with low levels of mobility, climate change will in effect trap populations in hazardous places, highlighting the need for interventions to minimize disaster impacts for immobile populations. These challenges emphasize the need to facilitate adaptation locally and across countries.

Facilitating Adaptation through Migration within Countries

Planned relocation, i.e., interventions by governments to assist whole commu-

nities in relocating to alternative locations, is now widely discussed for vulnerable communities from Alaska to Mozambique and for hundreds of coastal cities around the world. In some cases, marginal areas such as low-lying land become effectively uninhabitable, leaving no meaningful alternative option. Planned relocation interventions often involve challenges and unanticipated consequences. In many low-income countries, authorities lack resources to deal with vulnerable populations and lack legitimacy in moving them. In cities in particular, planned relocation disproportionately affects the urban poor. Previous planned relocations have been detrimental for associated communities through disruption and loss of income, social networks, and cultural heritage. Relocated populations in the Mekong basin in Lao PDR, for example, lost years of income and had seriously curtailed opportunities in their new villages.¹¹

Planned relocation can, however, become more effective through accountable governance and participation by all those affected. Long-standing consultation processes with coastal communities in Alaska, for example, minimized the trauma of relocation and loss of place and identity through sensitive deliberation with communities.¹² Consultations in these communities led to consensus-based actions: land swaps that provide climate-safe relocation sites, roads and boat landings that facilitate the relocation of individual households, and the building of services and infrastructure to attract households to the new locations. Various governments have sought to codify the principles for appropriation and compensation and have implemented coastal setback and buyouts of land and property as part of so-called managed retreat programs. However, buying up land at market rates is expensive and often displaces marginalized communities, eroding their trust in these schemes.¹³ Hence, across all government interventions for planned relocation, transparency of rules and processes has been shown to be key to legitimate and effective adaptation.

Adaptation strategies must also address the needs of immobile populations that cannot adapt through migration and are often at greatest risk to climate change through measures highlighted, for example, in the Sendai Framework

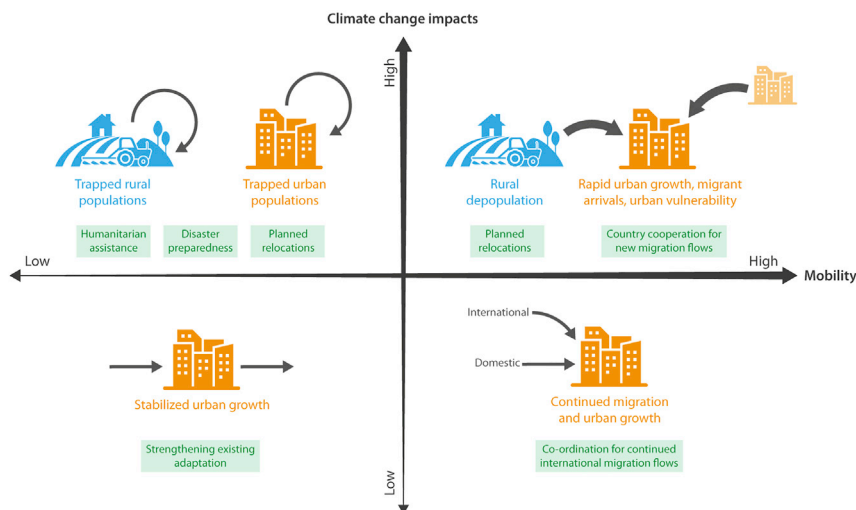


Figure 2. Multipronged Strategies for Facilitating and Managing Climate Migration in Origin and Destination Regions under Climate Change

for Disaster Risk Reduction. These include securing land tenure to stabilize farming incomes and careful planning for disaster recovery. In Bangladesh, for example, investment in systems to evacuate whole communities and help them return after cyclone impact has significantly reduced costs of displacement and facilitated planned adaptation over the past decades.¹⁴ Hence, policies that reduce the costs of moving, or deal with immobility in threatened places, make adaptation more effective.

Facilitating Adaptation through International Migration

Current multilateral initiatives represent initial soft-law attempts to deal with contentious international migration resulting from climate change.¹⁵ Examples of non-binding principles include the UN Framework Convention on Climate Change, which classifies migration as a legitimate and important source of adaptation and has funded such adaptation activities; the Global Compact on Safe, Orderly, and Regular Migration from 2018, which is the first UN global agreement that addresses the governance of international migration (although not a legally binding treaty, it emphasizes the need to respect the human rights of individuals displaced by climate change in international migration policies); and the 2020 UN Human Rights Committee, which ruled that countries receiving climate migrants need to account for

imminent life-threatening conditions in home countries before rejecting claims for asylum from such involuntary migration. Despite these examples, cooperation between countries remains scarce: many countries are not currently meeting obligations over distress migration flows and asylum applications.

Coordination for planned migration as a response to climate change would require identification of localities at risk of depopulation, assessment of potential areas where people can move to, and instigation of movement of people to more secure areas. Coordination between countries would require sharing the burden of planning, identifying appropriate receiving areas, and highlighting how migrants benefit host societies. Emerging proposals for agreements between regions that facilitate and coordinate labor markets provide ways for countries planning for future flows to be beneficial to both origin and destination regions.¹⁶

Coordination and collaboration are already more apparent at sub-national levels. Cities are now recognized as first responders and on the frontlines of receiving and integrating migrants and refugees, whereas these roles are traditionally considered primarily within the purview of national governments. Hundreds of city leaders around the world jointly declared their support for the inclusive treatment of migrants and refugees through the Marrakech Mayors Declara-

tion in 2018.¹⁷ In the US, for example, commitments by sanctuary cities to protecting migrants stand in contrast to federal policies.

Coordination for the less predictable survival migration flows requires a system focusing on human rights, international assistance with common funds, and principles for how information and risks can be shared. Such agreements are possible within coalitions of limited numbers of neighboring origin and destination countries that share common migration flows. Given that most international migrants move within their regions, some countries are already considering free movement within a larger region, such as between Pacific Island nations and New Zealand.

The gains from cooperation to both origin and destination countries include reduced levels of irregular migration and trafficking. There is long-standing evidence, for example, that increasing and facilitating mobility, including the ability for return migration, makes migration flows more predictable, orderly, and safe.¹⁸ These are the goals of global migration governance. All such coordination between origin and destination countries will ultimately contribute to greater levels of mobility.

Conclusions

Migration is a natural response to opportunity and risk associated with climate change. It is costly to those moving and represents upheaval in both origin and destination regions. However, because it is a potentially effective adaptation to climate change, it needs to be part of city and national planning and of international cooperation. We have highlighted that within countries, governments can help to reduce the costs of dislocation, promote safe and orderly resettlement, and provide infrastructure and services in safe locations.

Between countries, cross-border migration is currently a fraction of the global migration flows but is likely to become more important given international migration trends and the amplifying effects of climate change. Cooperation on survival migration across borders will make such moves more sustainable and reduce the humanitarian costs in the long run. Most cross-border migration is to neighboring countries, so often regional partnerships are

sufficient for an effective cross-border migration agreement.

People move for opportunity and for survival. For vulnerable populations, the lack of options and capacity to move is a major constraint. The scale of survival movements in the face of climate risks is increasingly evident across the US and many other countries, where whole regions are at risk of wildfire and storms. Grasping the opportunity to make migration an effective element of adaptation needs to become central to national adaptation strategies and a stronger focus in international agreements between already connected countries.

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