



Climate Change, Internal Displacement and Development: Submission to the UN High Panel on Internal Displacement¹

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1. Introduction

Climate change and other environmental factors will likely have greater influence on patterns of internal displacement than they will on cross-border movements. Such movements will also greatly affect development in some of the poorest countries in the world. The World Bank's development goals of eradicating extreme poverty and boosting shared prosperity recognize the need to build capacity to address displacement in this context. The World Bank's latest climate targets for 2021-2025 support more ambitious action and better adaptation as well as leverage private sector finance and drive systemic change at the country level (World Bank Group 2018). Specifically, the World Bank's (2019b) Adaptation and Resilience Action Plan commits to scale up support to social resilience for the most vulnerable populations, including for climate risks associated with human mobility, food security and economic shocks.

In its latest replenishment, the World Bank's fund for the poorest (the International Development Association's (IDA) offers support for countries' efforts to ensure migration is orderly, safe and legal to raise benefits for both sending and host countries (World Bank 2020). It commits to apply a migration lens in partner countries where migration or remittances play a significant socioeconomic role, including through analytics that close critical knowledge and data gaps and migration diagnostics to inform country programs and design of operations. The fund also encourages economic transformation to raise opportunities and job growth as well as leverage remittances to accelerate jobs growth in origin countries. These efforts aim to avoid that livelihood pressures induce involuntary migration. IDA underscores the need to generate more and better economic opportunities as well as to build social cohesion that reduces risks of fragility, conflict and violence. Access to safe, orderly and regular migration can help avert internal displacement, which too often occurs in ways that are risky to the displaced and a burden to the receiving communities.

Related to the specific aims of the High Level Panel, in 2013, the World Bank established a multi-donor trust fund to implement the Knowledge Platform on Migration and Development (KNOMAD), a brain trust for the global community. Its three objectives are 1) generating, synthesizing and disseminating knowledge on migration, displacement and planned relocation issues; 2) providing policy choices based on multidisciplinary evidence; and 3) providing technical assistance and capacity building to sending and receiving countries for the

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implementation of pilot projects, evaluation of migration policies and data collection. As one example, KNOMAD advocated successfully to have goals related to migration included among the Sustainable Development Goals (SDGs). KNOMAD also established a specific Thematic Working Group on Environmental Change and Migration, which focuses on dimensions such as the determinants of movements and impacts on those who move, those who are left behind and those in host communities. KNOMAD's and the World Bank's contributions to improving the evidence base on climate change and human mobility are discussed below. They include work on both internal movements as well as cross-border ones.

2. The nexus between environmental change, mobility and development

The linkages between environmental change, human mobility and development are significant (Ferris (2020)). Both mobility and forced immobility related to environmental change have important implications for the SDGs as well as the World Bank's aim to eradicate poverty and enhance shared prosperity, reflected in the vulnerability and resilience of concerned populations, that need to be managed carefully (Martin & Bergmann 2017). The incidence of slow-onset and sudden-onset disasters is intrinsically tied to poverty while disasters perpetuate or create poverty (Hallegatte et al. 2017). For example, poor people's livelihoods often depend directly on increasingly threatened ecosystem goods and services. They are nearly twice as likely to live in fragile housing in vulnerable areas, often work in sectors highly susceptible to climate impacts, and tend to receive less recovery support after disasters. Another recent World Bank report (2019a) highlights climate change as one of the main drivers of human mobility and provides an overview of relevant World Bank support to address both emissions mitigation and climate adaptation. Displacement in the context of these processes presents particular challenges as the movements may be immediate, large-scale and take place within countries that have little capacity to respond.

The development implications of the environmental change-mobility nexus are complex and require a nuanced approach. First, pre-existing levels of vulnerability and resilience mediate the extent to which environmental changes cause movement as well as the types of mobility that occur. Second, development outcomes of human mobility also depend on pre-movement household profiles, assets, and skills. Movements can be adaptive, for survival, or erosive (Warner & Afifi 2014), not only for those who move, but also their families and host communities (Martin & Bergmann 2017). When vulnerable households (such as landless or land-scarce poor) move to deal with hazards, their migration is often only for survival and can even erode resilience. For example, some who migrate during shocks or hunger seasons can remit little or nothing, while their departure lowers labor supply for food production at home (Warner & Afifi 2014). Development risks also tend to be high when movements occur unexpectedly and in distress, as is often the case with displacement (Melde et al. 2017). Experience also shows that planned relocation of at-risk populations brings about substantial risks for people's development prospects (Cernea 2002; Cernea & McDowell 2000).

With proper planning, though, internal and international migration can be an effective adaptation strategy, as recognized in the 2010 Cancún Adaptation Framework of the UN Framework Convention on Climate Change (UNFCCC), the Intergovernmental Panel on Climate Change (Adger et al. 2014) and academic research (e.g. McLeman 2016). Under positive circumstances,

migration helps affected individuals to move out of harm's way and secure livelihoods despite adverse environmental conditions (Foresight 2011). Households and communities use it to manage risk and build resilience by diversifying sources of income (Mohapatra et al. 2012). Anticipatory migration is also used to reduce the likelihood that entire households will become displaced.

Yet the most vulnerable groups too often have the fewest opportunities to adapt locally or move away from risk (Adger et al. 2014). Those trapped in unsafe situations, willing but unable to move, are of particular concern as they may face high impoverishment and survival risks. In that sense, forced immobility should be of equal interest to the High Level Panel as is mobility.

Further, research indicates that climate change affects pandemic, which in turn affect mobility (Brenner and Marwen 2018) As Wu et.al. (2016), note “climate conditions constrain the geographic and seasonal distributions of infectious diseases, and weather affects the timing and intensity of disease outbreaks.” It is not only the diseases themselves that affect movements but also the responses by governments and households to their spread. In many cases, the response is to order quarantines and stay at home rules that limit mobility. Edelstein et al (2014) found, in an analysis of infectious diseases, that “when people move as a result of such health crises, they tend to move over short distances and for relatively short periods of time, and often because of misunderstandings and panic (Edelstein et al. 2014:97). A recent survey in Senegal indeed found an increase in urban to rural migration as a result of COVID-19 (Le Nestour and Moscoviz 2020).

As above, forced immobility may, in fact, be a far greater risk for those who are unable to relocate during a pandemic to where they can distance themselves from others. The spread of COVID-19 through nursing homes and prisons is an example. This leads to a direct concern about the impact of COVID-19 on those already displaced by environmental change (as well as conflict). There is great potential for a rapid spread of the disease through the contained and often unsanitary places in which the displaced reside—whether camps or urban spaces.

From a development perspective, the implications of environmentally-induced human mobility for the vulnerability and resilience of large populations must be taken seriously. While the issue has recently come to feature prominently in national, regional and international debate (Ionesco et al. 2016), it is still insufficiently incorporated in long-term development planning. There is need for more evidence-based norm-setting and practice in this area if the international community is to be prepared to address internal displacement in the context of climate and other environmental change.

3. World Bank response

The World Bank engages with environmentally-driven mobility through research and financing. Several World Bank research reports provide insights into the nexus (Adams et al. 2014; Cervigni & Morris 2016; Hallegatte et al. 2017; Hallegatte et al. 2015; PIK & Climate Analytics 2013; World Bank 2012, 2016). One of the key research efforts is “Groundswell: Preparing for Internal Climate Migration” (Rigaud et al. 2018). Using a 30-year timeframe, the report considers three potential climate and development scenarios. The “pessimistic” reference

scenario assesses high greenhouse gas emissions combined with an unequal development pathway; the second scenario is based on similarly high emissions but an improved development pathway, resulting in “more inclusive development”; and the third is “more climate-friendly,” with lower global emissions but the same unequal development as the reference scenario.

In the three focus regions Sub-Saharan Africa, South Asia, and Latin America, “Groundswell” finds a scaling up of internal climate migration between now and 2050, with a likely intensification thereafter if status quo prevailed. More than 143 million (around 86 million in Sub-Saharan Africa, 40 million in South Asia, and 17 million in Latin America) are projected to move by 2050 in the high end of the pessimistic scenario. In a “more inclusive development” scenario, internal climate migration could be reduced to between 65 and 105 million and a “more climate-friendly” pathway lowered the numbers by between 31 million to 72 million.

The emergence of spatially concentrated “hotspots” of climate in- and out-migration, reflecting shifts in the viability of ecosystems to sustain livelihoods, will have important implications for development and economic transitions. “Climate-driven ‘out-migration’ will occur in areas that are increasingly marginal and can include low-lying cities, coastlines vulnerable to sea level rise, and areas of high water and agriculture stress”; conversely, in-migration hotspots have “better climatic conditions for agriculture as well as cities able to provide better livelihood opportunities” (Rigaud et al. 2018: xxii). When hazards multiply and render local adaptation difficult, migration may be a reasonable development and adaptation strategy for the affected population, but adequate preparation of internal migrants and host communities is a key precondition. Already more resilient households tend to fare better from environmentally-induced migration (Martin & Bergmann 2017). In the absence of such preparation, however, migration can readily turn into challenging mass displacement when conditions rapidly deteriorate (such as during acute natural hazards).

Far-sighted planning which moves from reactive to anticipatory responses is increasingly urgent. To avoid future crises, “Groundswell” recommends that the international community should enhance emissions mitigation to limit global temperature increase; integrate climate migration into national development plans; and invest in research to better contextualize and understand the phenomenon. Such research needs to focus on scales ranging from regional to local, not just global, as local impacts differ. Responses must also go beyond the proximate causes to address the underlying drivers, including environmental and climate-related factors that jeopardize livelihoods and fuel conflicts. For example, in Rwanda a World Bank projects seeks to consolidate the ongoing shift from a humanitarian approach to long-term, government-led programs that improve access to basic services, environmental management and economic opportunities for both the displaced and host communities.

The World Bank is attempting to fill some of these gaps and to mainstream climate migration into development planning and policy. First, it will provide a more complete picture of potential climate migration by extending previous climate migration modeling analysis for additional regions and sub-regions where the World Bank is engaged. Second, ongoing work is expanding the current model for more granular analysis and contextualization modelled migration for coastal countries in West Africa. It also develops policy options at the local and national level as a response framework for World Bank project teams to engage policy makers and practitioners

on the one side. On the other side, it aims to build knowledge and capacity among World Bank teams and regional partners to apply this response framework and integrate it into research, the project cycle, and policy processes. This ongoing effort on the climate-migration-development nexus can inform development practitioners' work at large (e.g. 2019b; World Bank 2020). The Africa Climate Business (World Bank 2015), which is currently being updated, will provide an avenue for addressing these issues. The World Bank Group's support to address climate driven migration also includes the Global Facility for Disaster Reduction and Recovery and an Adaptive Social Protection Program in the Sahel, which enables new and existing social protection systems to act at scale before extreme climate events become disasters (World Bank 2019a). As another initiative, the World Bank expanded KNOMAD in 2020 into a larger Umbrella Trust Fund that will support preparation of World Bank operations addressing migration, including environmentally-driven instances.

4. Improving Data and Research

KNOMAD's Thematic Working Group on Environmental Change and Migration has been investing in three objectives, namely a) increasing understanding of the impact of environmental change on migration through stock taking of the literature, expert consultation, research and stakeholder dialogue; b) increasing policy-relevant knowledge and information; and c) ensuring that knowledge is available to policymakers within the World Bank, other international organizations, governments and nongovernmental organizations.

In particular, KNOMAD has aimed to strengthen the evidence base by improving data and methodologies for understanding the linkages between environmental change and mobility (Banerjee et al. 2017; Bylander 2016; KNOMAD 2014; Martin & Bergmann 2017; KNOMAD 2015a; Zickgraf et al. 2016). The Working Group has emphasized the need for longitudinal and quantitatively sound research on the long-term impacts of climate change on human mobility (KNOMAD 2015b, 2016). Longitudinal research is key for understanding the effects of slow-onset environmental processes, such as rising sea levels, and recurrent acute environmental events, such as floods and cyclones, and for identifying tipping points influencing the decision to migrate. Such research designs would also improve understanding of the long-term effects of different migration-related adaptation strategies. KNOMAD has also focused on the ways in which resilience and vulnerability affect and are affected by mobility, with a particular interest in how to ensure that the most vulnerable are protected. In this context, KNOMAD has sought to improve understanding of South-South movements, both internal and cross-border, recognizing that most affected persons will move internally or into other developing countries.

Drawing from the experience of the World Bank with resettlement in the context of development projects, KNOMAD has also collaborated with several partners to develop guidelines and a toolbox on planned relocation in context of environmental change (Brookings et al. 2015; Georgetown University et al. 2017) as well as helping governments improve their related planning processes and institutional frameworks (KNOMAD 2018).

5. Conclusion

Human mobility is already an important global phenomenon with significant implications for poverty and inequality. While a share of the global movements of people has traditionally occurred in the context of environmental influences, climate change will significantly alter the magnitude of environmental degradation and hazards that human beings and systems face. This amplification of risks is particularly concerning from a development perspective, since on the one hand, vulnerability to climate impacts is highest in poorer countries. On the other hand, both mobility and immobility related to environmental change have important implications for the vulnerability and resilience of large numbers of concerned people that need to be managed thoughtfully.

Therefore, an explicit development lens is indispensable for approaching climate change and human mobility. But, no one development agency, including the World Bank, can build the resilience necessary to help people remain where they live or, if necessary, move in a safe, orderly and regular manner that protects them and the communities into which they settle. Collaboration between development actors and with organizations focused on human mobility within and across international borders is essential. At present, research and policy development on climate change and mobility is being addressed across different silos. The UN Framework Convention on Climate Change has focused on displacement in the context of its work on loss and damage. Objectives regarding migration and displacement were incorporated into the Global Compacts for Safe, Orderly and Regular Migration and on Refugees, which have their own processes for tracking progress. The SDGs provide the framework for development actors to engage in projects related to climate change and mobility. Although each of these processes reference the others, it is urgent that they operate more collaboratively to ensure that the intersections between climate change, human mobility and development are fully understood. This means collaborative research, pilot testing of integrative approaches, and, ultimately, a seamless set of policies and programs to build resilience and reduce vulnerability to climate change, especially among those who are internally displaced or unable to move to safer environments.

References

- Adams, S., et al. (2014) *Turn down the heat: confronting the new climate normal (Vol. 2): Main report (English)*. World Bank: Washington, D.C.
- Adger, W. N., et al. (2014) 'Human security'. In: Field, C. B., Barros, V. R., Dokken, D. J., Mach, K. J., Mastrandrea, M. D., Bilir, T. E., Chatterjee, M., Ebi, K. L., Estrada, Y. O., Genova, R. C., Girma, B., Kissel, E. S., Levy, A. N., MacCracken, S., Mastrandrea, P. R., White, L. L. (eds.) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, pp. 755–91. Cambridge University Press: Cambridge, United Kingdom and New York, NY, USA.
- Banerjee, S., et al. (2017) *Do Financial Remittances Build Household-Level Adaptive Capacity? A Case Study of Flood-Affected Households in India. KNOMAD Working Papers 16*.
- Brenner, F and B. Marwan (2018) Change of influenza pandemics because of climate change: Complex network simulations." *Revue d'Épidémiologie et de Santé Publique*, Volume 66, Supplement 5, July 2018, Page S424

- Brookings, Georgetown University and UNHCR (2015) *Guidance On Protecting People From Disasters And Environmental Change Through Planned Relocation* <<http://www.unhcr.org/protection/environment/562f798d9/planned-relocation-guidance-october-2015.html>> accessed 9 August 2018.
- Bylander, M. (2016) *Cambodian Migration to Thailand: The Role of Environmental Shocks and Stress. KNOMAD Working Papers 7.*
- Cernea, M. (2002) *Impoverishment Risks and Reconstruction: A Model for Population Displacement and Resettlement.*
- Cernea, M. and McDowell, C. (2000) *Risks and reconstruction: experiences of resettlers and refugees:* Washington, D.C.
- Cervigni, R. and Morris, M. L. (eds.) (2016) *Confronting drought in Africa's drylands: Opportunities for enhancing resilience.* World Bank; Agence Française de Développement: Washington, D.C.
- Edelstein, M., K. Koser and D. Heymann, (2014) "Health Crises and Migration." In S. Martin, S. Weerasinghe and A. Taylor. *Humanitarian Crises and Migration: Causes, Consequences and Responses.* Routledge Press.
- Ferris, E. G. (2020) 'Research on climate change and migration where are we and where are we going?', *Migration Studies.*
- Foresight (2011) *Migration and Global Environmental Change: Future Challenges and Opportunities.* Final Project Report: London.
- Georgetown University, UNHCR and IOM (2017) *A toolbox: Planning Relocations to Protect People from Disasters and Environmental Change.*
- Hallegatte, S. et al. (eds.) (2015) *Shock Waves: Managing the Impacts of Climate Change on Poverty.* The World Bank Group: Washington, D.C.
- Hallegatte, S., et al. (2017) *Unbreakable: Building the resilience of the poor in the face of natural disasters. Climate change and development series.* International Bank for Reconciliation and Development; The World Bank Group: Washington, D.C.
- Ionesco, D., Zickgraf, C. and Gemenne, F. (eds.) (2016) *The state of environmental migration 2016. A review of 2015.* Presses Universitaires de Liège: Liège.
- KNOMAD (2014) *International Symposium on Environmental Change and Migration: May 28–29 2014, Symposium Report.*
- KNOMAD (2015a) *Environmental Change and Migration: State of the Evidence.*
- KNOMAD (2015b) *Longitudinal Research on Environmental Change and Migration: A Workshop on Objectives, Methods, and Applicability to Policy and Practice: March 19-20, 2015, Workshop Report.*
- KNOMAD (2016) *Quantitative Assessments of Environmentally-Induced Migration: May 9-10, 2016, Summary Report.*
- KNOMAD (2018) *Regional Workshop on Planned Relocations to protect persons from disasters and environmental change in the Latin American context: May 2 and 3, 2018, San José, Costa Rica.*

- Martin, S. F. and Bergmann, J. (2017) *Environmental Change and Human Mobility: Reducing Vulnerability and Increasing Resilience. KNOMAD Policy Brief 6.*
- McLeman, R. A. (2016) ‘Migration as Adaptation: Conceptual Origins, Recent Developments, and Future Directions’. In: Milan, A., Schraven, B., Warner, K., Cascone, N. (eds.) *Migration, Risk Management and Climate Change: Evidence and Policy Responses.* Springer International Publishing: Cham.
- Melde, S., Laczko, F. and Gemenne, F. (2017) *Making mobility work for adaptation to environmental changes: Results from the MECLEP global research.*
- Mohapatra, S., Joseph, G. and Ratha, D. (2012) ‘Remittances and natural disasters: ex-post response and contribution to ex-ante preparedness’, *Environment, Development and Sustainability*, 14/3: 365–87.
- PIK and Climate Analytics (2013) *Turn down the heat: Climate extremes, regional impacts, and the case for resilience ; a report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics.* World Bank: Washington, D.C.
- Rigaud, K. K., et al. (2018) *Groundswell: Preparing for Internal Climate Migration.*: Washington, D.C.
- Warner, K. and Afifi, T. (2014) ‘Where the rain falls: Evidence from 8 countries on how vulnerable households use migration to manage the risk of rainfall variability and food insecurity’, *Climate and Development*, 6/1: 1–17.
- World Bank (2012) *Turn down the heat: Why a 4°C warmer world must be avoided.* The World Bank: Washington, D.C.
- World Bank (2015) *Climate-Resilient and Low-Carbon Development: The Africa Climate Business Plan.* World Bank: Washington, D.C.
- World Bank (2016) *High and Dry: Climate Change, Water, and the Economy.* World Bank: Washington, D.C.
- World Bank (2019a) *Leveraging Economic Migration for Development: A Briefing for the World Bank Board.* World Bank: Washington, D.C.
- World Bank (2019b) *The World Bank Group Action Plan on Climate Change Adaptation and Resilience.* World Bank: Washington, D.C.
- World Bank (2020) *Additions to IDA Resources: Nineteenth Replenishment - Ten Years to 2030: Growth, People, Resilience.* Washington, D.C.
- World Bank Group (2018) *2025 Targets to Step Up Climate Action.* World Bank Group: Washington, D.C.
- Wua, X, Y. Lu, S. Zhouc, L Chena, and B Xu (2016) “Impact of climate change on human infectious diseases: Empirical evidence and human adaptation.” *Environment International*: Volume 86, January 2016, Pages 14-23
- Zickgraf, C., et al. (2016) *The Impact of Vulnerability and Resilience to Environmental Changes on Mobility Patterns in West Africa. KNOMAD Working Papers 14.*