

## INTRODUCTION

# Special Issue on Climate Migration

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How do weather shocks influence human mobility and poverty, and how will long-term climate change affect future migration over the course of the 21st century? These questions have gained unprecedented attention in public debates as global warming is already having severe impacts around the world, and prospects for the coming decades get worse. Low-latitude countries in general, and their agricultural areas in particular, have contributed the least to climate change but are the most adversely affected. The effect on people's voluntary and forced displacements is of major concern for both developed and developing countries. On 18 October 2019, Agence Française de Développement (AFD) and Luxembourg Institute of Socio-Economic Research (LISER) organized a workshop on *Climate Migration* with the aim of uncovering the mechanisms through which fast-onset variables (such as weather anomalies, storms, hurricanes, torrential rains, floods, landslides, etc.) and slow-onset variables (such as temperature trends, desertification, rising sea level, coastal erosion, etc.) influence both people's incentives to move and mobility constraints. This special issue gathers five papers prepared for this workshop, which shed light on (or predict) the effect of extreme weather shocks and long-term climate change on human mobility, and stress the implications for the development community.

In the first article, *Michel Beine* and *Lionel Jeusette* provide a critical review of existing empirical literature. They highlight the diversity of outcomes and approaches, and conduct a meta-analysis of 1,355 regression results extracted from around 50 studies. The analysis reveals that empirical findings vary with the frequency of the migration data, the type of countries included in the sample, the type of climatic variables included in the set of regressors, as well as the empirical specification, which may include direct and indirect mechanisms of transmission or both. The link between climatic factors and mobility is complex, and studies allowing for conditional effects of climate shocks are more likely to produce robust findings. This suggests that climate change may trigger mass emigration from some regions, while trapping the affected population in others. The rest of this special issue further adds to this literature either providing global analysis on how the climate change-migration nexus unfolds or by dwelling into specific channels of this relation.

The second article by *Michał Burzyński*, *Frédéric Docquier* and *Hendrik Scheewel* develops a world economy model to predict the effect of slow-onset variables – sea level and temperature rises – on long-term migration pressures. They estimate the effects of climate change on the size, skill composition and dyadic structure of human mobility. They confirm that climate change is likely to reinforce divergence

in total factor productivity between rich and poor countries, and between urban and rural regions. It thus creates conditions that are conducive to increasing urbanization and international migration. The simulations predict mobility responses in the range of 70–108 million working-age adults over the course of the twenty-first century. However, most of these movements are local or inter-regional. In particular, changes in the sea level mainly translate into forced local movements. South–North migration response is smaller and of the “brain drain” type.

The third article by *Els Beckart, Ilse Ruyssen* and *Sara Salomone* examines the effect of self-reported exposure to environmental stress on intentions to migrate internally or internationally. The economic effects of weather shocks vary across countries and regions. The study shows that exposure to climatic shocks increases the probability to intend to migrate both domestically and internationally, along the lines of the findings of the previous article. The largest effects are found in low- and middle-income countries in Africa and Latin America and the Caribbean, and mostly translate into intra-regional migration intentions, suggesting that long-haul migration to OECD countries is a costly strategy of last resort.

The predominance of internal migration as a response to weather shocks or climate change is one of the common findings of the articles of Beckart et al. and Burzynski et al. Consistently, the last two papers focus specifically on how fast-onset mechanisms shape local migration. In the fourth article, *Luis Guillermo Becerra-Valbuena* and *Katrin Millock* investigate the role of marriage-related institutions in governing the gendered migration responses to droughts. They use data from Malawi, a country with bride prices where climatic shocks affect men’s mobility, households’ bargaining power in the market for marriage, and the occurrence of child marriages. They use a quasi-experimental setting and compare the probability of migration for individuals in specific age groups having been heterogeneously affected by droughts. Their analysis reveal that droughts increase between-district migration of young men and girls for work reasons, while marriage-related migration increases only within districts. The results do not indicate large changes in the probability of child marriages, but evidence an increase in children’s movement for work reasons.

Finally, the fifth article by Trong-Ahn Trinh, Simon Feeny, and Alberto Posso studies migration responses to natural disasters in Vietnam, a middle-income country where the rural sector is highly vulnerable to weather shocks. The estimation method allows to account for disasters’ intensity, and to distinguish between the direct impact of disasters and the indirect impact resulting from losses in agricultural outputs. Only severe natural disasters are found to increase, directly and indirectly, the probability of internal migration, mostly from rural areas to cities. These migration responses are relatively uniform across geographical locations and levels of household income.

Although human mobility responses are important, the five studies also point to the converging message that a significant portion of the population affected by climate changes is likely be trapped in poor rural regions. Trapped populations suffer severe income losses. Natural disasters induce adverse effects on income inequality, and future climate change is very likely to increase the extensive and intensive margins of extreme poverty. Climate change is an additional factor that calls for better coherence between migration, urbanization, development and environmental policies. Given people’s difficulty to emigrate from the poorest countries, preventive measures are needed to encourage climate change adaptation, local disaster-risk reduction,

sustainable development in general, and sustainable urban development in particular. This reinforces the call for efficient global policies and more importantly, highlights the importance of the local and regional contexts in fighting against the effects of climate-driven poverty.