THE EFFECTS OF CLIMATE CHANGE ON RURAL-URBAN MIGRATION IN THE MEKONG DELTA, VIETNAM

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SUMMARY

In many parts of the world, climate change is increasingly impairing human livelihoods and well-being by escalating the intensity and frequency of natural hazards and climate variability. This may compel part of the population in high-risk areas to consider migration. The aim of this study is to examine whether climate change phenomena affect migration decisions, and if so, to investigate the mechanism of that effect (Chapter 2), and to predict the volume of future rural-urban migration out of the Mekong Delta of Vietnam in response to the impact of climate change (Chapter 3).

The consequences of climate change are expected to play a role in migration decisions. However, estimating the impact of climate change on migration is difficult, given the reliance on historical data and currently limited exposure to actual climate changes. Chapter 2 of this dissertation takes a different route by employing the choice experiment (CE) method to investigate intention to migrate among farmers living in the Vietnamese Mekong Delta (VMD), one of the areas in the world most significantly affected by climate change. This is the first study to use CE to examine the influence of climate change on rural-urban migration and in lowland areas. Based on prior literature and initial piloting, the CE is designed to ask the respondents to make a choice about migration for eight hypothetical scenarios constructed

using six main attributes: drought intensity, flood frequency, income gain from migration, network at the potential destination, neighbors' choices, and crop choice restrictions. The results confirm that increasing intensity and frequency of climate change phenomena raise the likelihood of choosing to migrate, with severe drought standing out as the factor most strongly affecting people's choice. Second, people who are relatively young, poor, have small household size, or have current migrant(s) in their families are more likely to choose to migrate. Third, we find that prior experiences of climate change significantly influence people's valuing of drought and flood attributes; and that contribution of network attributes is gendered and dependent on migration experiences. The findings of this model can be useful for projections of environmental-induced migration and could provide insights into the debate regarding climate change – migration nexus in developing and seriously affected countries/regions.

Huge future flows of migration due to the impacts of climate change are inevitable in some parts of the world, especially in the Vietnamese Mekong Delta (VMD). In Chapter 3 of this dissertation, we present a novel approach of integrating an agent-based model (ABM) with a choice experiment (CE) to simulate future migration out of the rural VMD in response to varying future climate scenarios and other migration stimuli. The ABM incorporates empirical measures through both agent behavior specification deriving from the CE model studied in Chapter 2 and population characteristics deriving from the census data using the Iterative Proportional Fitting (IPF) method. The model projects that by 2050 about 1.8 to 2 million people could migrate under the impact of climate change scenarios. The current crop choice restriction in the VMD may contribute to nearly 350,000 migrants out of the VMD

coastal provinces under the severe climate change scenario by 2050. We also find large social feedback effects on migration for the case of VMD. This study contributes to the literature a flexible method for simulating environmentally induced migration and provides a good reference for the formulation of policy strategies related to climate change and migration in Vietnam.