

Environmental Stressors and Migration: Evidence from Vietnam

VALLY KOUBI^{a,b}, GABRIELE SPILKER^c, LENA SCHAFFER^a and THOMAS BERNAUER^{a,*}

^a *ETH Zurich, Switzerland*

^b *University of Bern, Switzerland*

^c *University of Salzburg, Austria*

Summary. — The argument that environmental change is an important driving force of migration has experienced a strong revival in the climate change context. While various studies predict large environmental migration flows due to climate change and other environmental events, the ex post empirical evidence for this phenomenon is inconclusive. We contribute to the extant literature by focusing on the micro-level. We examine whether and how individual perceptions of different types of environmental stressors induce internal migration. The analysis relies on original survey data from Vietnam including both migrants and non-migrants. The results suggest that individual perceptions of long-term environmental events, such as droughts, significantly reduce migration while perceptions of sudden-onset environmental events, such as floods, significantly increase the likelihood of migration controlling for other determinants of migration. These findings also imply that improving the targeting of aid to environmental disaster-affected areas and the financial and technical support for adaptation to environmental change could be the most productive policy-options. Policymakers, thus, need to implement a wide range of developmental policies in combination with environmental ones in order to improve society's ability to effectively cope with environmental change and minimize its effect on migration.

© 2015 Elsevier Ltd. All rights reserved.

Key words — climate change, floods, droughts, migration, micro-level, Vietnam

1. INTRODUCTION

The debate on whether and how environmental change impairs human security and ultimately forces people to leave their homes and migrate to places more conducive to their well-being has experienced a strong revival in the climate change context. The Intergovernmental Panel on Climate Change (IPCC, 2014a), as well as many academics and policy-makers have argued that climate change is likely to cause mass population dislocations (migration)¹ due to extreme weather events, such as stronger and more frequent storms and floods, as well as longer-term, gradual problems, such as droughts and rising sea levels (Foresight Migration & Global Environmental Change, 2011; Laczko & Aghazarm, 2009; Myers, 1997, 2002; for a critique, see Kniveton, Schmidt-Verkerk, Smith, & Black, 2008; see also Gemenne, 2011; Pigué, Pécoud, & de Guchteneire, 2011, and Pigué, 2010).²

A rather large body of the literature examines particular cases of environmental change and seeks to relate observed dislocations of people to observed environmental events or stressors (Doevenspeck, 2011; Dun, 2011; Gray, 2008; Gray & Mueller, 2012a, 2012b; Halliday, 2006; Henry, Schoumaker, & Beauchemin, 2004; Jäger, Frühmann, Grünberger, & Vag, 2009; Massey, Axinn, & Ghimire, 2010; Mortreux & Barnett, 2009; Myers, Slack, & Singelmann, 2008; Nguyen, Raabe, & Grote, 2015; Robalino, Jimenez, & Chacon, 2015; Van der Geest, 2011; Warner *et al.*, 2012).³

Most of these studies suggest that environmental stressors *can* induce migration. However, there clearly is room for further research that should address at least two shortcomings of existing work. First, the large majority of studies focuses on one specific country and examines one particular environmental event such as one specific drought or flood and its effects on migration.⁴ Since the effects of an environmental event on migration are likely to be context specific and are mediated by various factors, such as household characteristics, socio-economic and political conditions (e.g., Black *et al.*,

2011; Hunter *et al.*, 2015), it remains unclear whether effects on migration might differ across different types of environmental stressors in the same country context.

The second limitation is that many studies using micro-level data, usually collected through surveys of individuals or households, concentrate on those persons who have migrated. However, environmental stressors do not affect all people in the same way and individuals do not respond to environmental stressors in a unified, singular manner (e.g., Black *et al.*, 2011; Halliday, 2006; Hunter, 2005; Hunter *et al.*, 2015; Raleigh, 2011). Hence, studies that overlook those who have not migrated are likely to suffer from selection bias because they do not allow for any conclusions with respect to persons who, despite environmental problems, decided not to migrate.

In this paper we contribute to the environmental migration literature by addressing some of the limitations of existing work. We propose a theoretical argument that systematically links individual perceptions of different types of environmental stressors—notably short- *vs.* long-term environmental events—to decisions of individuals to migrate or stay. We then examine the plausibility of this argument, using original survey data from Vietnam, including both individuals who migrated and individuals who decided to stay. While future climatic change may lead to some international migration and may well be needed, particularly for the citizens of island nations, still we focus on internal migration because there is strong consensus in the scientific literature that most migration flows associated with environmental factors are internal, with the affected individuals/households seeking to find more habitable locations, with better economic opportunities, within their own countries (Adamo & Izazola, 2010; Hunter *et al.*, 2015; Raleigh *et al.*, 2008).

* The authors thank 2 anonymous reviewers for their helpful comments, and Annette Aigner and Dr. Kimberly Howe for excellent research assistance. This paper was supported by funding of the Swiss Network for International Studies (SNIS). Final revision accepted: November 24, 2015.

The next section presents the theoretical argument. In the subsequent section we discuss the empirical approach and the results. The final section summarizes the findings and discusses their policy implications.

2. THEORY

While migration can be a survival strategy for people experiencing environmental problems, still it is not the only strategy. Reuveny (2007, p. 657), for instance, argues that “people can adapt to environmental problems in three ways: stay in place and do nothing, accepting the costs; stay in place and mitigate the changes; or leave affected areas”. Accordingly several authors have argued that environmental conditions are part of a complex pattern of causality (e.g., Black *et al.*, 2011; Hunter *et al.*, 2015; Lonergan, 1998; Suhrke, 1994). They argue that environmental, economic, social, and political factors are interrelated and need to be examined jointly in order to understand the role environmental factors play in population movements. A very useful option for doing so is to draw on the “stress-threshold” model (Wolpert, 1966).

From the perspective of this model, environmental events, for instance floods and droughts, can act as “stressors” that bring about “strains” and motivate individuals to consider migration as a response.⁵ That is, when environmental “stressors” put an individual’s wellbeing at risk, decrease her personal income, and/or lower her opportunity for future employment then she is more likely to consider migrating to places with better environmental attributes and better income opportunities. It is worth stressing, however, that environmental events are likely to have asymmetric impacts across the affected population, and hence migration decisions may be affected more by perceptions of environmental problems rather than the environmental event as identified in some objective fashion.⁶ Perspectives on environmental problems are almost by definition relative, influenced by the ability of an individual to cope with and adapt to environmental problems. This ability should be a function of an individual’s skills, financial assets, age, gender, and education (Hunter *et al.*, 2015; Piguat *et al.*, 2011).⁷ Environmental stress is, obviously, likely to be more paramount in settings where people are more directly dependent on the natural environment for their livelihood.

However, the presence of environmental stressors will, in most cases, not automatically induce migration (the main exception are major environmental hazards that leave local residents with no choice but to leave). Individuals and societies have adapted to climatic changes over the course of human history (de Menocal, 2001) and existing studies have documented people’s resilience to environmental change in several countries of the world such as West African Sahel, Vietnam, and Canadian Arctic (Adger, Kelly, & Ninh, 2001; Berkes & Jolly, 2001; Ford, Smit, & Wandel, 2006; Roncoli, Ingram, & Kirshen, 2001). It seems, therefore, that individuals are likely to first try and abate the respective environmental problem and/or adapt to it before they consider migration (e.g., Adger, Agrawala, & Mirza, 2007; Roncoli *et al.*, 2001). The reason is that migration is costly in both financial and sociological/psychological terms because individuals tend to develop strong personal bonds over their lives with their home location and its people (Devine-Wright, 2013; Lewicka, 2011). Consequently, an individual will consider migration only when an environmental event has a major impact on her personal wellbeing and her efforts to adapt to and/or mitigate this impact are failing (Speare, 1974). To what extent this is the

case depends on the form and magnitude of the environmental stressor.

The most interesting variation in this respect, in our view, is the difference between *sudden vs. slow-onset* and *short-term vs. long-term* events⁸ (see also Foresight Report, 2011; Halliday, 2006; Robalino *et al.*, 2015). Sudden and short-term (rapid) environmental events, such as floods or storms, can have severe impacts—at least in the short run—on the wellbeing of individuals. Affected individuals may move in the aftermath of such natural disasters.⁹ The empirical implication of this argument is that *sudden and short-term environmental events have a significant effect on individuals’ decision to migrate*.

Slow-onset and long-term environmental events, such as droughts, desertification, or sea-level rise are likely to have smaller immediate impacts on the wellbeing of individuals. People can adjust their productive strategies over time when facing such environmental stressors, for example, by investing in irrigation systems, using drought resistant plant and animal varieties, or by diversifying income sources. Moreover, diversification of income sources and a reduction of risk for the household might be accomplished by having a single-family member migrate (Hunter *et al.*, 2015; Stark & Bloom, 1985). The empirical implication of this argument is that *slow-onset and long-term environmental events are less likely to increase the probability of migration*.

Overall, we thus expect individuals’ reaction to environmental stressors to depend on the nature of the environmental event as it is perceived by the individual.¹⁰ In the case of sudden and short-term environmental events we expect individuals to migrate (either temporarily or permanently), while we expect no influence of slow-onset and long-term environmental events on migration decisions. The next section presents a systematic analysis of the two hypotheses.

3. EMPIRICAL ANALYSIS

Ideally, for a systematic empirical analysis of these hypotheses one needs data for both migrants and non-migrants who originally come from the same area in order to analyze whether environmental stressors influenced migrants’ decision to move to another location. Only if one compares individuals who have stayed in the area with those who have left, one is able to isolate the effect of environmental stressors on the decision to migrate since comparing individuals from the same region ensures that the context for all migrants is the same. Unfortunately, no data that meet these requirements exist. The only dataset that comes close to this ideal is the EACH-FOR project.¹¹ However, the limited number of observations per country case study makes the EACH-FOR data difficult to use in a quantitative analysis and thus not very well suited for our purpose.

Consequently, this paper relies on original survey data specifically collected to allow for a quantitative analysis of individual migration choices. In particular, while we sampled households, we ultimately interviewed only one member per household aged 18–64 and asked questions which were related to the particular individual as well as to the household, for example whether a member of the household had already migrated previously. Hence, our approach of analysis while centering on the individual allows us to nevertheless incorporate important household-level factors. The survey was conducted in four districts in four provinces in Vietnam in September and October 2013 and yielded 1,200 completed questionnaires in total of which 600 came from migrants.

Download English Version:

<https://daneshyari.com/en/article/7392961>

Download Persian Version:

<https://daneshyari.com/article/7392961>

[Daneshyari.com](https://daneshyari.com)