

## **Does the climate make people migrate? - Evidence from Mexico**

This presentation is concerned with the question how and to what extent different climate stressors might influence migratory behaviour. Its purpose is twofold: 1) It suggests a methodology to research the nexus between climate signals and migration, and 2) it presents preliminary empirical results from Zacatecas and Veracruz, Mexico. The research is an ongoing DPhil project at the Sussex Centre for Migration Research in the UK. The preliminary results are based on qualitative fieldwork in Mexico that investigated the relationship between drought and migration in Zacatecas from January to June 2008, and the relationship between hurricanes and migration in Veracruz from October 2008 to March 2009.

The nexus between environmental change and migration has been the subject of controversial theoretical debates in academic articles and books (most importantly El-Hinnawi 1985, Myers and Kent 1995, and Black 1998, 2001). More specifically, the nexus between climate change and migration has been identified in papers published by a variety of researchers and NGOs. Some of these reports warn of large flows of people who will become displaced as a consequence of climate change and thereby assume a somewhat linear positive relationship between climate change and migration (New Economics Foundation 2003, Stern 2006, Christian Aid 2007, Action Aid International 2007, Greenpeace 2007, UNU-EHS 2007, Warner et al. 2009). Other reports acknowledge that climate change might affect migration flows, but stress the complexity of the relationship between climate stressors and migration and the existence of many intervening factors (Brown 2008, Kniveton et al. 2008, Piguet 2008, Norwegian Refugee Council 2008, EACH-FOR 2009).

Empirical results are not conclusive yet but they show that the nexus between climate stressors and migration is complex and depends on many factors. Several studies suggest that a distinction between international and internal migration is crucial. While internal migration often increases in times of hardship, international migration often decreases because people do not dispose of the necessary financial resources for the journey and for the border crossing (EACH-FOR 2009, Henry, Schoumaker and Beauchemin 2004, Findley 1994). However, other studies into the effects of climate stressors on migration show an increase of international migration after the event (Munchi 2003 for drought in Mexico), or no relationship between the climate stressor and migration at all (Paul 2004 for tornados in Bangladesh). Using the example of El Salvador, Halliday (2006) showed that the question if an external

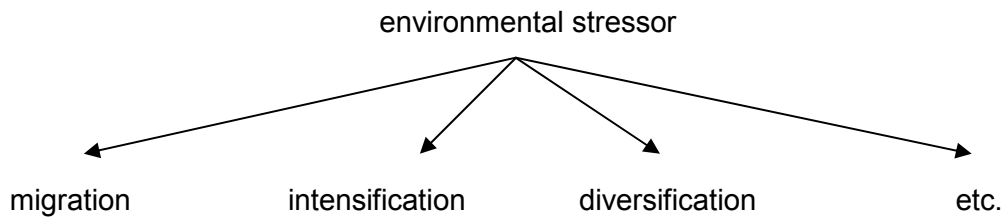
stressor leads to more or less international migration also depends on the nature of the event. He showed that adverse agricultural conditions, caused by extended periods of drought, tend to stimulate migration to the USA. At the same time, after the 2001 earthquake (which is not related to climate change, but its effects might be comparable to the effects of, for example, a hurricane) the number of households, that were sending migrants into the USA, decreased.

Human responses to environmental shocks and stresses and migration decisions are both very complex processes for several reasons. People worldwide have developed a variety of different adaptation strategies to overcome the threats to their livelihoods caused by the environment. Furthermore, there is a broad consensus amongst migration researchers that migration cannot be explained by one single reason alone (Kritz, Lim, and Zlotnik 1992, Castles and Miller 1993, Boyle, Halfacree, and Robinson 1998, Wood 2001). These authors argue that there are a multitude of economic, social and cultural reasons that influence migratory behaviour. The relationship between shocks and stressed caused by the environment or by a changing climate is even more complex. Internal and international migration has been a response, amongst others, to environmental hardship for generations. In the Sahel the phenomenon of seasonal internal migration is referred to as “eating the dry season” (Rain 1999, Brown 2007), a term that clearly expresses the link between dry weather and the need to migrate. International migration, on the other hand, is an expensive project that demands resources for the journey and for the crossing of borders. Therefore, it is well-known that it is generally not the poorest people who migrate overseas (Castles 2000:3, de Haan 2000:7, Skeldon 2002:71). As extreme climate-related events such as droughts and hurricanes cause financial hardship, it is likely that after such an event a large part of the population will not dispose of the necessary financial means to migrate internationally. In order to take this complexity of the subject into account, the presented study seeks to look at the potential nexus between climate and migration in a holistic way, and from two perspectives that are expressed in the following two sets of research questions:

- 1) How do people respond to different types of gradual stresses and sudden shocks brought about by climate variability? To what extent does migration appear to be a response to these different types of stresses/shocks?

Figure 1 shows different possible responses to environmental shocks or stresses. Migration might be one of these strategies, but it is not the only one.

Figure 1: Different possible responses to environmental stressors

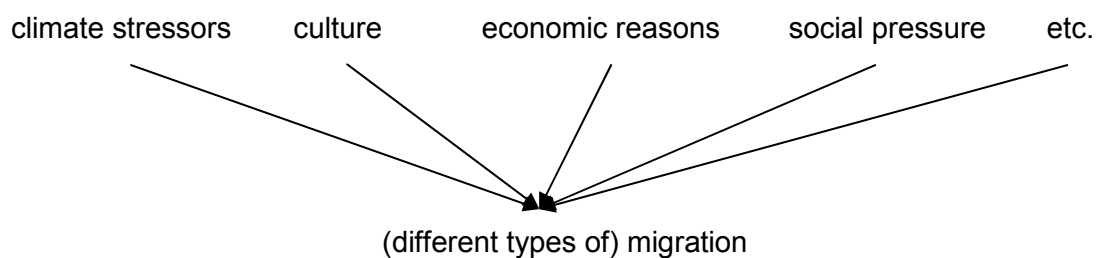


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2) What sets of factors influence different kinds of migration decisions? How far are environmental stressors relevant factors in the decision making process? How do environmental stressors influence the choice of destination, the length of stay and the number of migrants sent?

Figure 2 demonstrates different motives to migrate or not to migrate. Many migration decisions are likely to combine two or more of these motives. Apart from the question whether somebody wants to migrate or not s/he has to decide where to go, how long to stay, and if s/he wants to go alone or with family members or friends.

Figure 2: Different drivers of migration



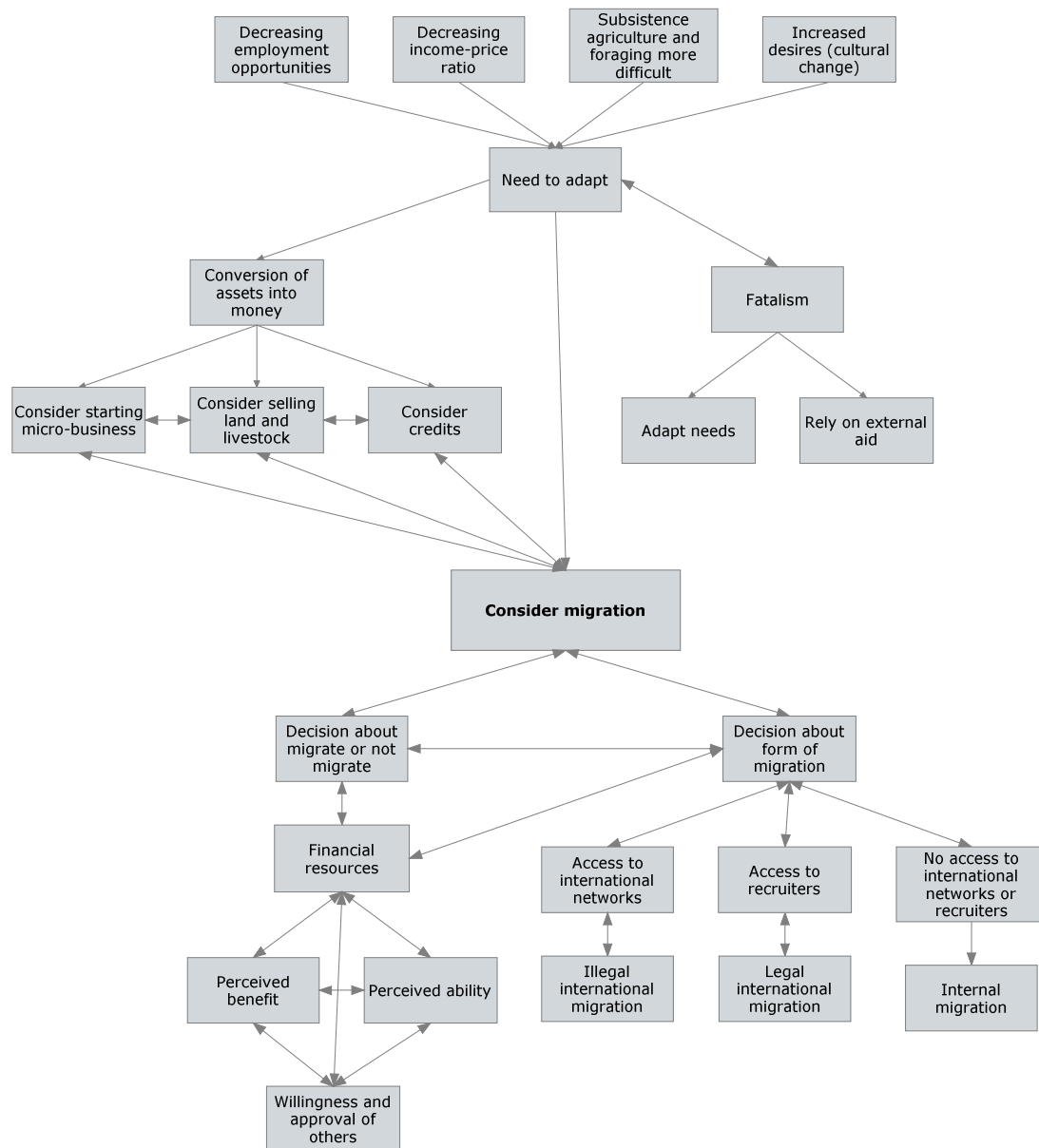
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It is unlikely that a direct relationship between environmental stressors and migration will be found. Migration decisions are multi-causal and, furthermore, affected people might be unable to separate environmental motives out of other motives for their migration decision. However, it is likely that some of the drivers of migration that fieldwork reveals will be affected by climate change. For example, climate change is expected to affect the economic situation worldwide, but it might also affect the

availability of jobs on the village level. Therefore, the drivers of migration identified during fieldwork will be tested for their sensitivity to climate change.

Fieldwork took place in two communities each in the Mexican states of Zacatecas and Veracruz. It consisted of qualitative interviews, life histories, participant observation, and expert interviews with local teachers and health workers. The empirical results are summarized in figure 3.

Figure 3: Model of migration decisions in Mexico



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Source: Author

The model shows three important aspects of the relationship between climate change and migration in response of the research questions.

1) People are making use of different responses when faced with environmental shocks and stresses. Important livelihood strategies in all four communities are credits, micro-businesses, selling land and livestock, and different forms of migration. Some people also adapt to a situation of scarcer resources by decreasing their consumption. Others completely rely on government aid programmes such as 'oportunidades', 'vivir mejor' or 'procampo'. These programmes are designed to support people in making a living but usually are not sufficient to maintain a family.

2) Migration has different drivers. People in the four communities mentioned several problems that lead to migration but also to other responses. These problems can be summarized in the following four categories: 1) Employment opportunities are decreasing. The majority of people are employed in commercial agriculture and they noticed that job opportunities are getting scarcer both in Zacatecas and in Veracruz. There is hardly any employment available in production and service jobs close to all four researched communities and the construction of roads and buildings is almost the only alternative to agricultural work. 2) Prices are increasing while salaries do not rise. Those who are employed find it difficult to make a living from what they earn. The global food crisis, the agrarian crisis in Mexico and again the global financial crisis caused a tremendous rise in prices for basic food items and consumer goods in recent years. The salaries of many village dwellers have not changed accordingly and had been minimum salaries already before the crises. 3) Subsistence agriculture is becoming more difficult. This is partly caused by the increasing lack of rainfall in Zacatecas and the increasing severity of floods and hurricanes in Veracruz. However, rising prices of products that are needed for farming and decreasing prices for agricultural produce that are paid to the farmers, also contribute to this problem. In some areas, also the soils have been overused for several decades and do not anymore produce the same quality and amount of agricultural products than they used to. 4) People's expectations of life have changed. Many young people do not want to farm anymore because it is hard work and pays off very little. On the other hand, young people's lifestyles have changed. Many of them dislike the traditional diet, which was based on farming and foraging, and prefer industrial food. Also, traditional construction materials of houses are replaced by industrial material and people want to equip their houses with modern electrical appliances. Therefore,

young people need more money to fulfil their needs and desires than the previous generations did.

3) Migration has different forms. The decisions about the destination and the forms of migration (legal international, illegal international or internal) are influenced by a variety of aspects. An important factor that influences the decision between international and internal migration is the presence or absence of historical migration networks in the village of residence. Fieldwork shows that in Zacatecas, people who live in a village with a historical migration network are more likely to migrate illegally to the USA than people who live in the village without this network. Those who do not possess international migration networks might rely on recruiters to migrate internationally or migrate internally. In Veracruz, historical migration networks do not exist. Therefore, many people rely on personal contacts to choose a destination where they can find employment and housing. Migration decisions are furthermore influenced by the financial resources people possess because international migration is more expensive than internal migration. Furthermore, personal factors such as the perceived benefit of migration in contrast to other livelihood strategies, the willingness to leave the village and the perceived ability to manage the journey and to find employment in another location influence migration decisions.

In all four researched communities, people do not perceive a direct relationship between climate stressors and migration and do not think that either droughts (in Zacatecas) or floods and hurricanes (in Veracruz) influence the volume of migrants. However, climate change is likely to affect some of the factors that are involved in people's migration decisions. This might either lead to more or to less migration and it might affect different forms of migration in different ways. Therefore, the next analytical step in this study is to test the elements that are involved in migration decisions for their sensitivity to climate change.

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