

Some questions on the migration-environment relationship

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Several reasons may explain why studies focusing on the migration-environment relationship (including mine, which is cited in the background paper) are not totally convincing. I would like to develop some of them here: the causes of environmental change, the lack of appropriate data, and the distinction between environmental and economic migrants.

The causes of environmental change

The problem in the analysis of migration-environment relations comes from the variety of environmental change. The concept of environmental change encompasses (among others) natural disasters (including drought) and the gradual deterioration of environmental conditions. In the latter, households can determine how they respond to environmental change because environmental degradation is gradual (use of water and soil conservation techniques, use of fertilizers, migration, off-farm job, etc.).

In the literature, both land degradation and drought are considered as push factors of migration with numerous confusions between these two drivers (for example by considering the drought-prone areas as degraded). Actually, many environmental changes share the common characteristic to be constraining for agriculture. Environmental changes, by leading to yield reduction, may contribute to migration decisions, particularly in countries where agriculture is the main source of livelihood. Land degradation is a slow-acting process, progressively making livelihood strategies based on farming unsustainable. By contrast, a number of coping and adaptation strategies have made agropastoralism sustainable in semi-arid regions affected by climatic variability. Nevertheless, in a period of unpredictable climatic stress, a short-term move seems to be preferred by migrants. Migration is more likely incorporated by low-income rural households, mostly if their incomes are drought-sensitive. Lucas and Stark (1985) showed that the remittances from migrants were positively related to the degree of drought (the worse the drought, the higher the level of remittances).

Even if land degradation and drought may contribute to migration by the same processes in a specific area (e.g. by yield reduction), is confusion allowed? I don't think so, particularly because actions of policy makers need to be different. In the case of natural disasters (such as drought), households are victims and need reactions from the policy makers; whereas in case of environmental deterioration, households are partly actors and a modification of their practices may be encouraged by consciousness-raising campaigns.

The lack of appropriate data

In an African setting, the analysis of migration-environment relations is made difficult because of the paucity of reliable environmental and demographic indicators. Data on migration are scarce in most African countries (a few exceptions exist fortunately). Censuses are highly aggregated and only give information on spatial mobility at the time of the census.

Environmental data are also in very short supply, and rainfall time-series are in fact the only reliable data on environmental conditions covering a long period and available at various spatial scales. For example, I tried to test the influence of land degradation on migration in Burkina Faso (Henry 2003). I used two land degradation variables: a land degradation assessment obtained from the GLASOD map (Oldeman, Hakkeling et al. 1990), and a land degradation indicator based on the rain-use efficiency index obtained by combining satellite data and rainfall data (Prince, Brown de Colstoun et al. 1998). Pictures of land degradation were so different than it was difficult to make a choice, all the more so since these two maps suffer of a lack of validation. The lack of validated data on land degradation constitutes a serious obstacle to the exploration of this issue. Studies focusing on the inverse relation (impact of migrants on land degradation) suffer from the time lag required by a long process of deterioration. Measures of soil fertility and migration separated by 10 or 20 years and collected in several villages (for the sake of comparison) are needed. Who can do that with accuracy? How reliable are conclusions without these so-demanding data? Are we able to formulate policy recommendations in this context?

The distinction between environmental and economic migrants

The reality of migration is complex in Africa. It is tempting to analyze the migration-environment relation by distinguishing the types of movement, either by the motives, or by the characteristics of migration (temporary, permanent, long-distance, etc). Previous studies have shown the necessity to use the latter (Henry, Schoumaker et al. 2004). But what about motives of migration? Is it worthwhile to distinguish environmental versus economic migrants, for example?

If so, how to separate environmental and economic migrants? The use of motives of migration (collected in several surveys) is not straightforward to explain the residence change. The answer given by respondents is subjective, could be changing and is given after the movement. So, it could be a reinterpretation of the reality, after the migration.

My feeling is this distinction is not meaningful (but science needs more than feeling, I agree). As Adamo suggested, “environmental reasons are generally intertwined with economic ones and in this sense environmental migrants are also economic migrants” (Adamo 2003, p.36). To pursue, Rudolph viewed economic and ecological factors “not as causal, but as delimiting factors which act as parameters within there still remains a large area of play for other variables” (Rudolph 1992, p.133). Environmental factors are constraining but the response of individuals or households may be varied given the limits shaped by economic and ecological circumstances and depending on the household economic aspirations. In the Burkinabè context, the economic and ecological factors seem to be interconnected. Areas would be considered as attractive if the natural resources may be valorized economically, such as in the case of cash crop. Hydro-agricultural installations and the organization of a production system are helpful to attract migrants in addition to favorable environmental conditions.

Migrations may result from the deterioration of economic conditions, due to the drought. Underlying effects of the environment on the economy are however difficult to capture in a statistical model. In a village of Burkina Faso, drought was shown to have an impact on household livelihood, even on those relying on cash crop and off-farm incomes (Roncoli, Ingram et al. 2001). Because cash crops also failed, farmers lost investments for seed. Grain purchases absorbed a greater part of the total budget of the households. Animal prices fell as the dry season progressed due to the poor health status related to the lack of grass and water. Food shortages made most local trading and off-farm activities less profitable because people had less money to invest in them and to buy their products. How to replicate this study at a larger scale? What is the value of studies incorporating economic and environmental factors in a single regression equation to explain migration (like mine and like others found in the literature)? Should we not dissect the effects of environment on migration by steps (through economic conditions) and by including feedbacks (e.g. impact of migration on economic conditions and on environment, impact of economic conditions on environment)? Is it realistic or just a researcher's dream?

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