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Field observations and empirical research

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Abstract
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Field observations and empirical research

Koko Warner, Olivia Dun and Marc Stal

The Environmental Change and Forced Migration Scenarios (EACH-FOR) project is a systematic attempt to detect the degree to which, and the pathways through which, environmental stressors affect migration.[1]

Today, environmental change including climate change presents a new threat to human security. Faced with an unconceivable scale of environmental change, migration may be an adjustment mechanism of first resort, or a survival mechanism of last resort. Migration may be an adaptation mechanism for those with the resources to move early and far enough away from danger. Or, in extreme cases and for those with fewer means to move, migration may be an expression of failed adaptation. To explore these possibilities, the European Commission sponsored the Environmental Change and Forced Scenarios (EACH-FOR) project to assess the impact of environmental change on migration at the local, national, regional and international level. The project conducted fieldwork in 22 case study locations in six regions[2] of the world to address the following questions:

1. Who is migrating away from situations of environmental degradation/change?

2. Where are environmentally induced migrants coming from and where are they going to?

3. Why have people migrated? (i.e. what role has environmental degradation or change played?)

4. How does environmental degradation interplay with other social, economic and political factors in decisions about migrating?

5. What might prevent people from migrating when they are faced with environmental degradation? (i.e. what assistance was needed, what was lacking?)

6. Why do some people remain in areas of environmental degradation/change while others migrate? (i.e. what are their coping/adaptation strategies and capacities?)

7. How does environmentally induced migration occur? (e.g. choice of destination, networks used)

8. What is the role of people's perception of environmental degradation in triggering them to move?

Flooding and relocation in Mozambique

Extreme weather as a manifestation of climate change is increasingly problematic for the people of Mozambique. In 2001, 2007 and 2008 heavy rains caused flooding along the Zambezi River in central Mozambique. Flooding in 2007 was then exacerbated by the impact of Cyclone Favio. Many people were made homeless. Droughts, coastal soil erosion and rising sea levels – which may be connected to climate change – also affect a large number of people in Mozambique. The river delta regions and the 2,700km-long coastline are at particularly high risk of inundation and erosion.

In Mozambique, environmental stressors (particularly flooding) contribute to migration and displacement. People are displaced during the flood emergency period; following recurring flooding events, people are relocated on a permanent or semi-permanent basis. Along the Zambezi River valley, temporary mass displacement is taking on permanent characteristics. The field research did not detect large-scale international migration resulting from the Zambezi River flooding or significant rural-urban migration patterns for flood-affected groups. Instead, the research revealed that government-organised resettlement programmes dominate the environmentally induced movement pattern for flood-affected areas.

Resettlement removes people from the physical danger of extreme floods but can lead to other environmental, social and economic difficulties. Subsistence farmers and fishers are moved away from fertile lands on riverbanks and to higher, drought-prone areas. Some resettled people attempt to return periodically to work in their fields in low-lying river areas in order to maintain land ownership and their livelihoods as farmers. Resettlement often causes these people to lose their livelihoods, forcing relocated households to depend almost entirely on governmental and international aid. As extreme weather events continue to hit Mozambique, the Government of Mozambique will increasingly face decisions about how to manage people at risk and on the move due to environmental factors.

Complex flooding and displacement in Vietnam

Flooding is a driver of displacement in Vietnam. The country is also prone to water or water-related disasters. A World Bank study released in February 2007 noted that Vietnam is one of the countries which will be most severely impacted by potential sea-level rise.[3] Among the most affected areas will be the Mekong Delta, one of the most densely populated areas on earth.

Fisherman, Hau River, Mekong Delta, Vietnam.

The Mekong Delta, as the 'rice bowl' of the country, plays a crucial role in helping Vietnam meet its development goals. Flooding is a regular annual occurrence and is an integral part of the livelihoods of the population living in the area. Given the area's fertility plus various factors relating to territorial expansion and defence, Vietnam has a history of government-initiated (re)settlement and spontaneous migration towards the delta. Currently, however, the Mekong Delta is witnessing a net outflow of migrants, due to a complex blend of economic, social, and environmental factors.

Fieldwork in the Mekong Delta indicates links between flooding and migration/displacement. A questionnaire sample collected from Vietnamese migrants in Cambodia indicated that half of the migrants decided to migrate in part because of environmental problems. The findings illustrate some of the connections between flooding and population movement:

- During the flooding season, people undertake seasonal labour migration and movement towards urban centres to bolster livelihoods.
- People directly dependent on agriculture for their livelihood (usually rice farmers) are particularly vulnerable to environmentally induced migration. Successive flooding events can destroy crops and drive people to migrate in search of alternative livelihoods.
- Migrants and experts noted that human trafficking into neighbouring areas was one (extreme) coping strategy used by families exposed to water-related stresses.
- As part of a flood management and environmental sanitation strategy, the government is currently undertaking planned resettlement of people living in vulnerable zones along river banks.

Conclusions

Environmental factors contribute to migration in the cases observed, particularly through pressures on livelihoods. Environmental factors interact with multiple other drivers to influence migration. If environmental conditions change to the extent that certain regions experience systematic collapse in livelihood chains, then environmentally induced migration could affect a larger number of people than currently observed in initial fieldwork performed by the EACH-FOR project.

Environmentally induced migration occurs when ecological tipping points are exceeded – points in time when environmental pressures mount and so threaten human security that people begin to factor environmental conditions into their migration decisions. What is still unknown is how and to what degree mounting environmental pressures will affect and trigger migration. Neither is it known whether those who migrate first are relatively well off or those with the greatest direct dependence on the quality of the environment. Empirical research is needed to establish the degree to which migration is a coping mechanism and how migration helps households to secure desired standards of living.

Environmentally induced migration has profound policy relevance for

Central Asia

CASE STUDY

François Gemenne and Philip Reuchlin

Three of the 24 EACH-FOR case-studies are in Central Asia – Kazakhstan, Kyrgyzstan and Tajikistan – where environmental challenges are triggering displacement.

The environmental challenges facing Central Asia include the industrial legacies of the former Soviet Union – contaminated land and pollution of soils and rivers. The area is also prone to earthquakes and landslides and it is anticipated that the melting of mountain glaciers will increase the frequency of floods and mudslides. The area has already seen significant changes in water usage. By 1991, for example, the level of the Aral Sea had fallen by about 15 metres, its surface area had been halved and its volume reduced by two-thirds.

Nowhere better exemplifies the inter-twining relationship between environmental degradation, climate change and migration than the Ferghana Valley. The Valley has a complex history, unclear property rights over the land and access to water, a varied ethnic mix and an extensive list of present or potential environmental threats. There are an estimated 10.5 million people living in the Ferghana Valley, and a significant part of this population may potentially be affected by forced migration.

Migration patterns in the Valley involve internal migration, cross-border migration among the three nation-states sharing the Valley and migration out of the Valley into other regions or countries. In the southern provinces of Kyrgyzstan, the population is regularly affected by natural disasters and entire communities are often displaced and in need of resettlement to safer areas. There are also significant population and refugee movements from an increasingly unstable Uzbekistan into the south of Kyrgyzstan.

Border regions between Uzbekistan, Tajikistan and Kyrgyzstan (where most pastures and grazing areas are located) are becoming a place of tension. A shortage of land for newcomers (and subsequent pressure on forests) increases environmental impacts. In addition, about 3,000 earthquakes are registered annually in Kyrgyzstan. Floods and landslides are frequent in the Valley, and their

human security. Climate-related stressors combined with ecosystem change (such as land degradation and water shortages) and rapid-onset events (such as flooding and extreme storms) already drive migration or prompt national governments to plan for the relocation and resettlement of affected populations. Government responses vary from giving incentives to mandating relocation, with mixed results. Resettlement programmes also have their costs and benefits: people are moved away from physical exposure to hazards but may faced increased debt and loss of livelihoods after resettlement.

Recommendations

- build a strong scientific basis: research is needed to accurately identify, measure and characterise environmentally induced migrants.
- increase awareness: knowledge about environmental degradation and climate change can arm governments, migrants and potential migrants against human security crises. Awareness can help avoid maladaptation.
- improve legal frameworks at the regional and multilateral level: policy and legal frameworks need to address environmentally induced migration.
- ensure adequate and appropriate humanitarian response to avoid escalating crises
- strengthen institutions and policies: the magnitude of future environmentally induced migration depends in part on longer-term environmental and development policies. Institutions must be strengthened so that they can appropriately manage migration linked to environmental change.[4]

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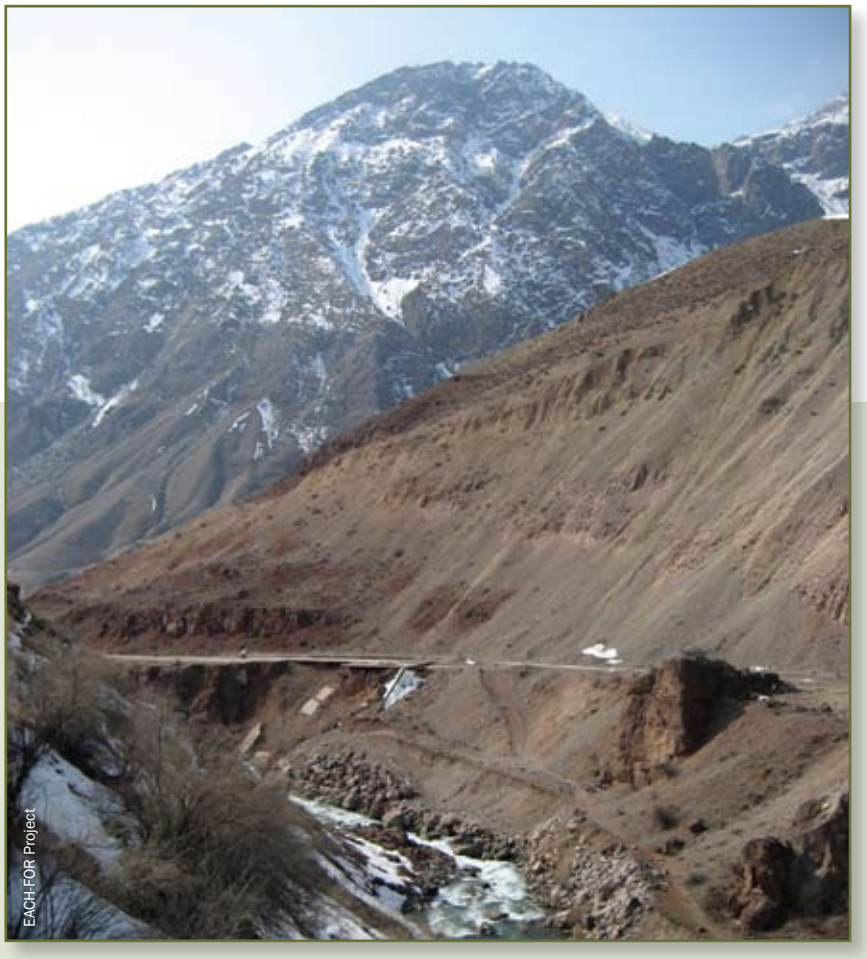
1. EACH-FOR is a two-year scoping project funded through the European Commission's 6th Framework Programme: www.each-for.eu. The UN University – Institute for Environment and Human Security (UNU-EHS) is one of seven partners in the project.

2. See www.each-for.eu/index.php?module=field_research. For methodology, see Afifi and Warner *The Impact of Environmental Degradation on Migration Flows across Countries* Working Paper No. 5/2008. UNU-EHS, Bonn. www.ehs.unu.edu/article:476?menu=94.

3. Dasgupta S, Laplante B, Meisner C, Wheeler D and Jianping Y, *The impact of sea level rise on developing countries: a comparative analysis*, World Bank, February 2007: www.worldbank.org/reference/

4. These recommendations follow those discussed in Renaud, Bogardi, Dun and Warner (2007), *Control, Adapt or Flee? How to face Environmental Migration?* InterSecTions No. 5/2007. UNU-EHS, Bonn.



Kyrgyz Valley.

frequency is expected to increase as a result of climate change.

There is an urgent need to:

- secure better data in order to better analyse linkages between environment, migration, economics and security; this will require increased transparency from governmental agencies, harmonisation across countries and an increase in data-collection capacities.
- develop resettlement programmes for areas where public health and livelihoods are at risk
- reduce human vulnerability – i.e. adequately address the needs of victims of slow and fast natural disasters, uphold human rights and provide economic opportunities to settle and integrate elsewhere.
- forecast future flows: this is vital to help governments prioritise scarce budgetary resources.

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