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'We are unlikely to see massive global migration movements'

Climate refugees tend to stay in their own or neighbouring countries. This may change in the future, argues Valerie Mueller

Read this interview in German.

Considering the acceleration of climate change, we can expect that various regions around the globe will become uninhabitable for humans. Are we going to face massive global migration movements?

I am only comfortable discussing future timelines on the order of decades, if even, based on the climate change migration research. The research suggests that we are unlikely to see massive global migration movements, except among areas already experiencing conflict. It seems that, in the case of Syria and elsewhere, climate change may be a risk multiplier for conflict-prone migration. While there are countries with historically high rural-urban or international migration rates, most have relatively low internal and international migration rates because of prominent barriers to mobility.

Which barriers are you talking about?

Poor infrastructure makes transportation costs relatively high. People from the rural outskirts may not be knowledgeable in the national language or foreign language of their destination affecting their ability to transfer their skills across sectors and destinations. Some regions may lack jobs that are not tied to agriculture and therefore rural workers who might otherwise move in response to a climatic event stay at their location due to the lack of opportunities. This could result in a net negative migration effect attributable to a climatic event, meaning that fewer people move in response to a climate shock. Among the studies that show a resounding positive effect between heat stress/temperature increases and migration, the still predict a rather low numbers of climate migrants in absolute terms.

Climate change can be one of many factors which prompts people to leave their home. In other words, the link between climate change and migration is highly complicated. Have researchers come up with reliable data to proof this link?

Studies based on longitudinal data, such as Clark and Mueller (2012) and Mueller et al. (2014),are preferred because they have sufficient information over time for households to at least tease out climate effects from other confounding factors that influence migratory patterns. These studies are often not nationally representative, so we might be more confident in predicting climate migrants for only selected districts or sites in a country. These studies also may fall short of measuring migratory patterns in a few ways.

Why is that such a problem?

First, migration is based on self-reported information typically by a proxy respondent. In other words, the household head may give the interviewer information about a family's member migration episodes that are subject to error. Surveys often don't include migration histories of each family member to differentiate temporary from permanent migration patterns. Finally, we might know little about displacement of households since the longitudinal data may often be unable to track and survey displaced households over time. What this means is that the migration patterns witnessed in most studies are those of individual household members rather than entire households themselves.

How reliable are the estimates when it comes to the numbers of climate refugees?

People that move in response to a climatic event typically move short distances. Studies that evaluate the effect of climate episodes on international migration patterns are generalizing the occurrence of an event over an entire country and then measuring the correlations between that event and international migration over the entire country. There are very few studies that are able to establish climate-migration relationships at a disaggregate enough level that accurately reflect exposure and behavioral changes at the same time. For example, many climatic events, such as soil salinity from sea level rise, floods, landslides, hurricanes, heat stress, etc. are highly localized and may be missed in an analysis of cross-country climate-migration patterns.

Who is mostly affected by climate migration?

Typically, people that are prone to migrate first are the ones with

portable assets. If we divide populations up between the landowners (owners of farms) and landless (agricultural wage laborers or service workers), the latter are more inclined to move in search for work. This is because they lack the resources to cope with the shock and smooth consumption in the short term. They further do not have land or other assets that ties them down to a particular location.

Which regions suffer most from emigration?

It's difficult to say precisely which geographic regions are most likely to have the most out-migrants because there has not been adequate attention to some areas in the Global South. Also, there are different aspects of climate change that leave some countries vulnerable and not others. For sea level rise (SLR), Clark et al. map which areas are under threat of exposure by 2100. But, exposure to SLR does not necessarily translate into mobility. We can say with confidence that Bangladesh is going to be affected on multiple fronts with respect to migration driven by changes in temperature, SLR, etc. Ethiopia also has several studies that have linked drought to migration. There have been several studies performed on Mexico, but, others have found declines in migration with access to remittances as a social safety net.

Do people tend to move internally and towards neighbouring countries? Or can the Global North expect a significant rise of climate migrants in the future?

People tend to move internally in response to a climatic shock rather than to a neighboring country, at least in areas of the world that are heavily researched such as North America, Latin America, and Asia. This would suggest that we should not necessarily observe more climate migrants moving to the Global North. However, African countries are relatively underresearched, and therefore it is difficult to say whether more and more climate migrants will move to the Global North from that region.

Is migration the most likely reaction to deal with the impact of climate change? Are there any other strategies of adapting to it?

Often, migration in response to climate change is a method of last resort among those who lack alternative options to cope with a disaster. For example, in our study in Bangladesh, we find that some households diversify into aquaculture, in response to the rise in soil salinity from sea level rise and other human-induced causes, while others migrate. Investments to protect people from certain disasters may alleviate concerns over climate migration, e.g. helping to disseminate drought-tolerant crop varieties. In other cases, such as

SLR, we might need to think about managed retreat, since those places will become completely inhospitable.

This interview was conducted by Joanna Itzek.



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