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Internal climate migration in a new era of scarcity

Hundreds of millions of people in developing countries will have their lives and livelihoods affected by climate change in the coming decades (IPCC 2022). With credible mitigation strategies failing to be implemented, increasing attention is being paid to strategies of adaptation to these coming changes. These include protective measures against increasingly frequent and intense fast onset events such as cyclones, floods and fires, changes in agricultural and other production processes to adjust to slow-moving changes such as changes in temperatures, precipitation and seasons or increased soil salinity due to sea level rise, and other *in situ* adaptation practices.

While considerable creativity and action is being shown in this respect, there are limits to how much *in situ* adaptation can do to maintain an adequate standard of living and protect life and health in the areas most exposed to the effects of climate change. In some cases, relocation of households and communities through migration and resettlement may be the only real options – or the best use of scarce resources. There is nothing new to this, people have been migrating as a result of environmental change throughout human history (Manning 2013). What is new is the urgency with which migration may be necessary, the scale at which it likely will happen, and the density with which migrant destinations are already populated.

Since climate migration will to a large extent be internal to developing countries, many of which are already densely populated and which often have limited resources, we are entering a new era of scarcity – of land and of other resources – with climate change. Crucially, climate change may trigger migration simultaneously in many developing countries possibly testing the limits of national and international governance and cooperation in helping those in need, and the limits of host communities.

Market and political failures in relocation

While conditions in destination locations influence the migration decision of individuals and households, one cannot expect that the many individual decisions of households will lead to optimal migration flows to areas where conditions are the most favorable. Instead, available resources and networks as well as the suddenness of the decision to move, are crucial when people decide where to go. Resources in terms of liquid assets, such as savings and earnings from selling assets in origin, ability to borrow money and skills the household members possess, will to a large extent determine how independently and efficiently the migrants can move – and how far. Networks, especially for those with limited liquid assets, are often crucial in determining where one can go.

In the case of forced relocation, for example, due to repeated or sudden natural disasters, many people may relocate simultaneously, in a hurry, leaving assets behind and in vast numbers to any place deemed safer than home. These places, however, may be exposed to weather and other hazards as newcomers often lack local knowledge about safe places to build or rent a house, or have no choice regarding where to stay, settling in places that may prove hazardous and unsafe (e.g., steep slopes or floodplains). The hosting communities may also have limited resources to absorb the newcomers and provide necessary services and infrastructure.

There are thus many potential market failures in the migration market. Information on destination locations may be more plentiful for areas where others have

already migrated, and these places may be perceived as the only choice available. These areas may not be optimal in terms of livelihood options, safety, or educational opportunities for children, for example. The arrival of new households in a few, preferred locations, like capitals or other major cities, may bring added congestion and hence negative externalities on existing residents that the new arrivals do not incorporate in their decisions. Exploring new areas, and transmitting information back to other potential migrants, is a public good which may be under-developed if left to individual households.

There is thus a case for government involvement in guiding, incentivizing, and directing migration flows away from the more congested areas with limited availability of space and resources for additional residents, to areas with greater capacity. There is also a need to identify how the areas with greater capacity can further be strengthened to accommodate climate migrants.

In addition to failures of individual migration decisions to lead migrants to areas where resettlement capacity is more favorable, one also has to consider political constraints. Resistance to resettling migrants from climate affected areas is not necessarily smaller in areas with greater capacity. This calls for identifying investments to improve local capacity which also improves conditions for existing residents. More so, there is a need for measures that can be taken to alleviate suspicions toward the migrants, ease integration, and avoid creation of tensions and destructive competition over local resources.

Key policy challenges are thus:

- How to identify places with high resettlement capacity cost-effectively and using already existing data?
- How to increase the absorption capacity of places with higher potential for resettlement?
- How to direct migration flows to the places more suitable to receive migrants?
- How to improve attitudes toward climate migrants among host community members?

Relocation – what are the options?

Large-scale migration puts pressure on destination places in terms of natural, human, and infrastructural resources: A new era of scarcity makes good use of the space and resources available essential. An important part of addressing these scarcities is mapping the resources and opportunities communities have for receiving the displaced and identifying areas that can more easily sustain inflows of migrants and increases in population. In a recent project funded by the Research Council of Norway, we have developed an approach to identify potential destination places for climate migrants, the climate change resettlement capacity (CCRC) framework (Walelign and Lujala 2022).

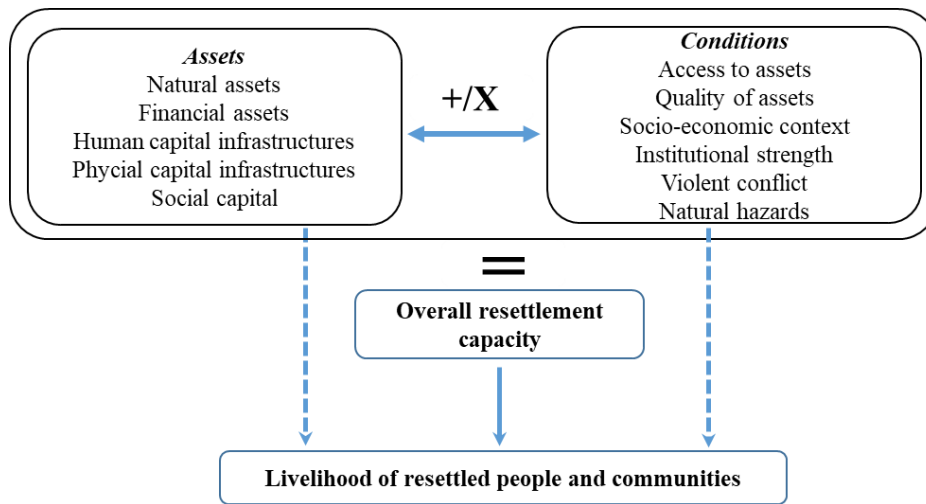


Figure 1 : Source: Walelign and Lujala (2020)

Our CCRC framework focuses on livelihood reconstruction as a key to successful resettlement of people and communities. It identifies five asset and six condition subdimensions that capture the availability of different resources available to the resettled and the factors that promote or constrain the use of these resources (Figure 1). The framework is designed to assist international organizations, governments, planners, and policymakers in identifying both the most suitable and least suitable places to resettle communities in the face of current or anticipated displacements due to climate change.

Using the CCRC approach, we have constructed resettlement capacity indices (RCI) for Ethiopia

(Walelign et al. 2021a) and Bangladesh (Walelign et al. 2022).¹ The indices are constructed using 75 indicators for Ethiopia and 100 for Bangladesh. The indices indicate that there are considerable variations in the resettlement capacity within countries (Figure 2). More importantly, the index approach makes it possible to identify the relative weaknesses of the places with the highest resettlement potential. This makes it possible to target these places through resource allocation and infrastructural investment to strengthen them further. For Bangladesh, we also applied a cluster approach that groups places with similar resettlement capacity profiles.

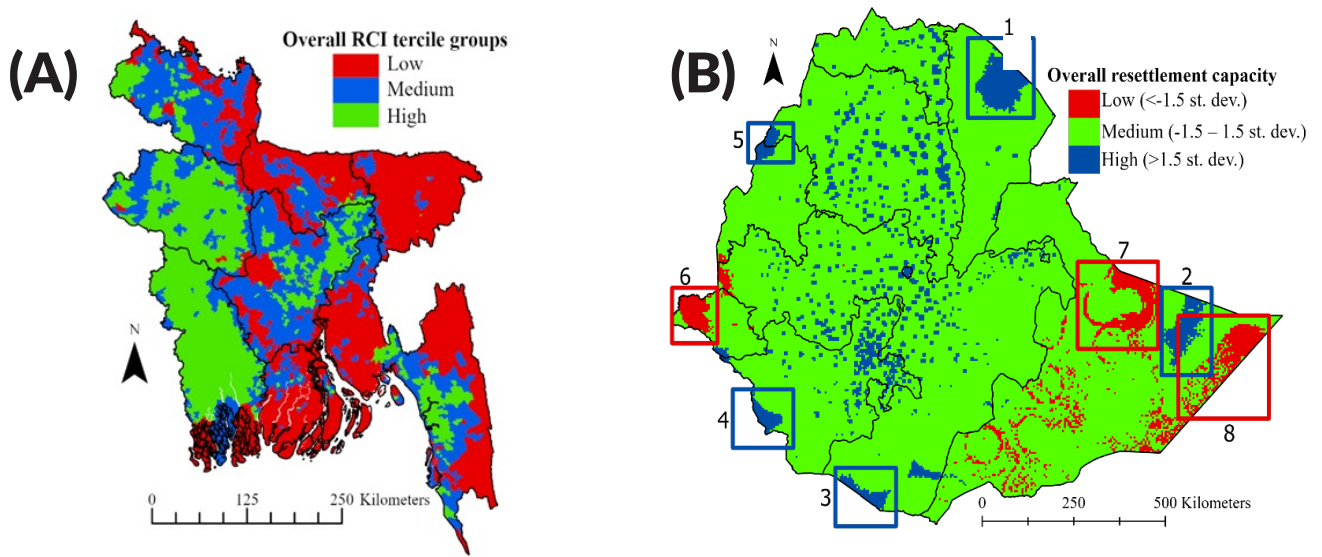


Figure 2 : Overall resettlement capacity index (RCI) for unions in Bangladesh (A) and overall resettlement capacity (B). Sources: Walelign et al. (2021b; 2022)

¹ A global index is under work.

This can help design policies that can be implemented in several places simultaneously.

Indices such as described above have the potential to provide a useful starting point for in-depth assessments of potential places for resettlement. Although index based assessments that cover large geographic areas perhaps are best suited as screening tools to identify potential areas, they pave the way for that more expensive, but more comprehensive assessments can be targeted to specific locations. Given good quality data, a good understanding of the study context, and an appropriate selection of indicators and index creation approaches, indices can thus provide a cost effective and objective selection of potential destination places.

Work on these indices holds the following important lessons for policy:

- Detailed geographical information is already available. Such data permits cost effective assessments of opportunities for resettlement in a number of climate affected countries
- An index approach can be used to identify areas where and ways in which conditions for incoming migrants can be cost-effectively improved

Further research is needed to:

- Establish whether a smaller number of key indicators could be used to identify potential areas for resettlement
- Understand how individual indicators and subdimensions should be weighted so that the indices better capture variations in local contexts within countries and across countries
- Develop approaches that enable pairing likely sending areas with receiving areas in terms of similarity (e.g., livelihood opportunities)

Resettlement – not just a technical challenge

Resettlement of climate migrants is not just a matter of technical capacity, local perceptions of and willingness

to receive migrants matter greatly. While migrants make positive contributions to destination economies, their arrival can also create tensions. Building on this insight, a considerable part of our Research Council of Norway project has been directed at examining the factors that shape attitudes towards migrants among residents in host communities, and ways in which to improve attitudes in order to make interactions less conflictual.

In 2019, we conducted a study of 630 long term residents in migrant-receiving areas of the Satkhira district in southwest Bangladesh, one of the districts in the country most exposed to climate change (Lujala et al. 2020). Based on a conceptual framework we have developed, the study analyzed the extent to which spatial, attitudinal, experiential, and social proximities and similarities between migrants and host community members affect the views host community residents have of migrants (Table 1).

The results from this study indicate that attitudes toward migrants improve with geographical proximity to highly exposed areas and with shorter attitudinal distance to other citizens in terms of values and worldviews. Attitudes are in a sense highly relational, and reducing perceived distance and stressing commonalities between migrants and host community members can therefore be a way of improving relations between host community members and migrants.

In a set of randomized experiments, we have examined potential ways in which this can be achieved in practice. In an experiment conducted in Ethiopia in early 2020, we tested the effect of interacting with migrants on attitudes towards them (Bezabih et al. 2021). We did this by randomly assigning host community members to a session of interaction with a migrant from a nearby refugee camp, to similar interaction with a fellow host community member, or to no interaction at all (the control group).

Consistent with intergroup contact theory (Allport 1954; Pettigrew et al. 201), we found that host community members that interacted with a migrant came to hold more positive views of migrants than host community members in the control group. Interaction hence

Table 1: Proximity aspects potentially influencing attitudes toward climate migrants

| Spatial proximity | Attitudinal proximity | Experiential proximity | Social proximity |
|--|--|---|--|
| <ul style="list-style-type: none"> • Distance to places highly exposed to climate-related hazard events | <ul style="list-style-type: none"> • Values and personality • Attribution bias • In- and outgroup attitudes | <ul style="list-style-type: none"> • Similar past experiences • Similar present experiences • Similar (anticipated) future experiences | <ul style="list-style-type: none"> • Educational similarity • Economic similarity • Occupational similarity |

Sources: Lujala et al. 2020.

seems to work in bringing host community residents and migrants closer together, at least as long as the interaction is shaped in a non-conflictual way, which our experimental interaction was.

In the Ethiopian study, we also found that the positive effect of interaction was quite robust to the introduction of cues suggesting diverging interests and identities between migrants and hosts, such as potentially conflictual cues did not diminish the effect of interaction on attitudes. However, a similar effect was found of interaction between host community members, suggesting it may be the human contact that improves attitudes, more than contact across group boundaries. Nevertheless, as evidence of the effect of host-migrant interaction on attitudes towards migrants, these results show promise, and are largely in line with previous studies of intergroup interaction along other group boundaries not specifically related to migration.

We conducted a second experiment in Bangladesh in which we tested the effect of information highlighting the lack of blame that climate migrants have for the difficult situation they are in, on host community attitudes (Kolstad et al. 2022). Long term residents of villages in the Satkhira district were randomly assigned to treatment groups where they were shown videos shifting the responsibility for the situation of climate migration to natural forces, Western economies, and local authorities, respectively.

The results from this study showed no differences in attitudes between the treated groups and a control group. Moreover, the information appears to have reduced host community perceptions of their own responsibility for accommodating migrants. These results highlight the difficulties in attempting to change host community attitudes by altering the climate migration narrative; such attempts can have unintended and unpredictable consequences.

The results from the studies conducted in Bangladesh and Ethiopia provide the following insight for policy:

- Host community members' realistic perception of natural hazards and limited agency of the affected people can improve empathy and support toward the displaced. Programs and campaigns focusing on creating awareness concerning the impact of climate change on displacement may thus contribute to improving attitudes toward migrants and create support for resettlement initiatives
- Appealing to people's values and portraying the potential migrants as similar to 'oneself' may help bridge the psychological distance between the host communities and the displaced
- Deliberately shaping or changing the narrative

to improve attitudes can be a difficult and have unpredictable consequences

- Interaction with migrants improves host community members' attitudes toward them

Further research is needed to:

- Understand how the formation of perceptions of internal climate migrants can be influenced
- Study whether more targeted information interventions can be more effective
- Identify what cost-effective and scalable approaches are available to influence attitudes and preferences toward internal climate migrants
- Study whether host community members' attitudes toward internal climate migrants depend on the type of environmental challenge they perceive to be behind the migrants' decision to migrate
- Understand how attitudes toward temporary and permanent migration may differ
- Establish whether such interventions can have long-term impacts on attitudes and behavior

Resettlement – some thorny issues

Our survey and experimental data from Bangladesh and Ethiopia also turn up a couple of surprising, more explorative findings that deserve further attention.

The first is that attitudes to migrants are also highly positional; our Bangladesh data shows that the wealthier and more educated among host community residents are more critical of migrants (Kolstad et al 2022.; Lujala et al. 2020). This is in contrast with results from previous studies of climate change and international migration to developed countries, where education and wealth are associated with more favorable views of migration (Rustenbach 2010; Hainmueller and Hopkins 2014) and more proactive views regarding climate change (Poortinga et al. 2019; Lujala et al. 2015). The second is that while occupational groups that are in greater labor market competition with climate migrants from poor areas, such as day laborers, are more critical towards migrants, their views are also more positively affected by interaction with migrants and narrative interventions (Kolstad et al 2022.; Bezabih et al. 2021).

These findings turn conventional wisdom in the migration field and climate change perceptions literature on their head. They also highlight important complexities in the political economy of internal migration in climate affected countries. If the wealthy and educated are more negative to migration, and hold views that are harder to shift, their interests and relative power to influence migration policies need to be better understood.

Key policy implications:

- Although any resettlement program should address poverty among the local community members, the design and implementation of such programs should also consider the local political implications of the more educated and wealthier people potentially being more critical toward internal climate migrants

Further research:

- Are there certain subgroups that can be more susceptible to interventions that seek to influence attitudes towards internal climate migrants?

Concluding remarks

The above discussion of climate migration and resettlement has largely focused on opportunities. This is in no way intended to make light of the challenges and dilemmas that inevitably and intimately arise around these issues. Migration and relocation will likely prove necessary as an adaptation response to the effects of climate change, and displacement that is unplanned and unmanaged, risks resulting in decidedly more negative outcomes. On the other hand, the history of forced resettlement policies in various countries through history has not been pretty. There is a dilemma between letting

migrants move to places that they prefer, and avoiding congestion in the more sought after areas. There is also a dilemma in letting people to stay even when their and their children's prospects elsewhere in the long term would be better.

The alternative to heavy-handed resettlement policies is the use of softer forms of paternalism and information and incentives to encourage people to migrate and to shape migration flows. This raises important questions of how to design such policies effectively, and in a way that makes them legitimate.

It should also be noted that the discussion of internal migration and resettlement in response to climate change takes place against an international background of ineffective mitigation efforts and impermeable borders that make international migration to wealthier countries unsafe, expensive and out of bounds for most poor people exposed to climate change impacts (Prokkola et al. 2021). There is no justice in people in the Global South being forced to move as a result of unsustainable policies used to shore up the wealthy economies of the Global North. Nor is imperviousness to the costs of climate change in developing countries defensible. In terms of climate change, questions of international distributive, restorative and retributive justice deserve more attention.



Photo: International Federation of Red Cross and Red Crescent Societies

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