Human security policy challenges
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All evidence points towards climate- and environmentally induced migration becoming one of the major policy challenges of this century. Adequate planning for and management of this phenomenon will be critical for human security.

The international community now increasingly recognises that environmental degradation and climate change could potentially result in population displacement on a scale the world is presently ill-equipped to prevent or address in an effective manner. Gradual processes of degradation as well as extreme environmental events can cause migration. Yet current policy responses tend to focus on the impacts of sudden disasters rather than the consequences of longer-term environmental degradation. Moreover, increased migration in itself may contribute to further degradation and vulnerability, even when displacement represents a coping mechanism and survival strategy.

A series of high-profile weather-related disasters and the ominous findings of such studies as the International Panel on Climate Change (IPCC) Fourth Assessment¹ and the Stern Review Report² have recently drawn the attention of policymakers and the media alike. To date, however, the issue of environmentally induced migration has remained largely under the radar. Its complexity, definitional issues as to what constitutes an ‘environmental migrant’ as well as the difficulty of predicting its scale have in some respects worked against building awareness and momentum for practical action.

Environmental migrants are understood to be those individuals, communities and societies who choose, or are forced, to migrate as a result of damaging environmental and climatic factors. This broad and diverse group ranges from people forced to flee disasters such as flooding to impoverished farmers abandoning degraded land and migrating to urban centres in search of alternative livelihoods.

However, work is still ongoing to update and unify the terminology employed in this field.³ One particular issue of terminology calls for resolution: the use of the term environmental or climate change ‘refugee’, which is widely employed but raises many objections due to its encroachment on the term commonly used and legally defined in the Refugee Convention of 1951 for the classification of refugees from violence and political intimidation.

A cross-cutting issue

Environmental migration, as with any mass movement of population (especially when it entails international migration), has significant political ramifications in addition to humanitarian and development implications, and is therefore a truly cross-cutting issue requiring proactive intervention. Indeed, environmental issues are among the root causes of human migration and sustainable long-term solutions must take these environmental dimensions into account. The humanitarian community is already critically affected, with a predictable risk that the scale of the problem will soon overwhelm existing capacities and financial resources. Finally, environmentally induced migration is the end result of unsustainable development, and the associated demographic changes will no doubt have a cumulative impact on development priorities.

Key drivers

Poverty, failing ecosystems, vulnerability to natural hazards and gradual climate-driven environmental changes are all linked to environmental migration. The degradation of ecosystems, and/or
demand for resources in excess of available supply, can lead to chronic poverty and hunger, high levels of communicable diseases, conflict and adaptation, or to coping strategies that include temporary or permanent migration.

While natural hazards such as hurricanes and floods can affect entire nations or regions, the most dramatic impacts typically fall disproportionately on the most vulnerable (in terms of location and socio-economic status). In addition, when natural hazards abruptly destroy livelihoods, return, recovery and reintegration are not always possible.

Climate change will significantly affect migration in three distinct ways. First, the effects of warming and drying in some regions will reduce agricultural potential and undermine ‘ecosystem services’ such as clean water and fertile soil. Second, the increase in extreme weather events – in particular, heavy precipitation and resulting flash or river floods in tropical regions – will affect ever more people and generate mass displacement. Finally, sea-level rise will permanently destroy extensive and highly productive low-lying coastal areas that are home to millions of people who will have to relocate permanently.

Trends and patterns
Academics and international agencies estimate that there are currently several million environmental migrants, and that this number will rise to tens of millions within the next 20 years, or hundreds of millions within the next 50 years. These figures, however, are largely the result of ‘educated guesswork’, based on extrapolations from scattered case studies and a few highly speculative academic papers. Credible, evidence-based forecasts are needed to raise awareness, analyse impacts and direct corrective action but work has yet to start on targeted research to develop valid estimates of potential migration and to correlate them with climate models and predictions.

At present, the great majority of environmental migrants originate in rural areas of least developed countries. This trend is expected to shift slightly in coming years, as densely populated coastal zones become increasingly affected by sea-level rise and more frequent storms, and mountainous areas are affected by heavy rains and subsequent floods and landslides.

Most environmental migrants move and settle in urban centres within their home countries, with a smaller proportion migrating to neighbouring countries (‘South-South migration’). An even smaller fraction migrates long distances to developed countries, contributing to the ‘brain drain’ phenomenon of skilled migrants. The burden thus falls overwhelmingly on least developed countries, even though it is the South-North international migration that appears most frequently in Western media.

Consequences
Not all consequences of environmentally induced migration are negative. Leaving environmentally degraded and agriculturally unsustainable regions can be seen as a legitimate coping strategy for affected populations. In addition, migration could potentially help slow the process of environmental degradation and allow those who remain in affected communities to adjust their livelihood strategies by changing their agricultural practices or, for instance, shifting to non-agricultural activities.

The main impacts of mass migration, however, are very overwhelmingly negative; they include escalating humanitarian crises, rapid urbanisation and associated slum growth, and stalled development. Furthermore, work to date suggests that migration alone does not solve the main cause of the problem, as degraded regions are not emptied sufficiently to allow environmental recovery or poverty alleviation, and in most cases continue their inexorable decline.

Next steps: the key priorities
Proactive intervention is now essential. Indeed, the international community has so far taken action in an essentially reactive manner, by responding to the frequent humanitarian crises and by (largely unsuccessfully) assisting developing countries to address explosive urban growth and slums. In the absence of successful corrective action, however, the future for many developing countries is likely to be a very difficult combination of widespread land degradation, food insecurity, unmanageable and impoverished mega-cities and large-scale migration.

While more work is needed to identify priority hotspots for intervention, forecasts and information from regions that are already affected provide some indicators. Particularly vulnerable areas include Small Island Developing States, the Sahel belt, the Bay of Bengal, dryland South and Central America, and dryland regions in Central Asia.
Both humanitarian and development assistance are clearly needed but as most of the burden falls on least developed countries, ownership at national level is essential.

The following key priorities have been identified as tentative measures for achieving an effective and coordinated international response to the challenges presented by environmentally induced migration:

- gaining a better understanding and recognition of the issue
- mitigating the main causes, specifically through environmental management and climate change adaptation, and ensuring that the migration perspective is not omitted when these strategies are developed
- better managing the environmental migration processes that are already occurring, in particular with a view to enhancing their positive effects on the areas of origin and improving the carrying capacities of these areas
- integrating this issue into existing humanitarian policy practices, guidelines and forecasts
- recognising that early action and planning are critical elements of a comprehensive approach.

Addressing environmentally induced migration is undoubtedly a multi-billion dollar process but, in light of the uncertainty in estimates of numbers of people likely to be affected, it is currently impossible to evaluate this cost with any measure of precision.

It is clear, however, that this issue cannot be addressed through minor changes in the levels of Overseas Development Assistance alone.

**Meeting the challenges ahead**

As a response to the growing realisation of the complex interdependencies between climate change, environmental degradation and migration, as well as the need for more collaboration and coordination at the regional, international and global levels, the Climate Change, Environment and Migration Alliance (CCEMA) was established in April 2008 in Munich, Germany, by the United Nations University (UNU), the International Organization for Migration (IOM), the United Nations Environment Programme (UNEP) and the Munich Re Foundation (MRF).

CCEMA is a multi-stakeholder global partnership bringing together key international organisations, groups of interested state parties, the private sector, the scientific and professional communities, and representatives of civil society. Its main objective is to mainstream environmental and climate change considerations into migration management policies and practices, and to bring migration issues into global environmental and climate change discourse.

The Alliance will bring together policymakers and practitioners from multiple fields to contribute to a better understanding of the challenges and opportunities this nexus presents. It provides an essential platform for interdisciplinary regional, international and global collaboration and coordination, in order to:

- raise policy and public awareness of the need for concerted action to address the challenges and realise the opportunities presented by the climate change, environmental degradation and migration nexus
- improve our knowledge of the complex relationships between climate change, environmental degradation and migration in terms of cause and consequence, and long-term as well as short-term patterns, through gathering, compiling and making available current information, as well as developing innovative research approaches
- provide a neutral and open forum for policy dialogue to identify and discuss major cross-cutting issues. The Alliance platform will act to strengthen cooperative mechanisms among governments and others
- provide practical support to the most vulnerable countries and population groups through building the capacity of governments and stakeholders to respond effectively to the challenges presented by the climate change, environmental degradation and migration nexus

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1. www.ipcc.ch/ipccreports/assessment-reports.htm
2. www.occ.gov.uk/activities/stern.htm