

Climate Change, Migration, and Population Growth



Drought, floods, severe weather and other effects of climate change have begun to threaten communities in many parts of the world. These impacts will worsen in the future, contributing to growing human migration as vulnerable people seek safer, more stable living conditions. This expected migration of hundreds of millions of people can negatively affect human well-being and political stability.

Rapid population growth in areas vulnerable to climate change will contribute to migration pressures by further straining limited natural resources and increasing population density in areas exposed to climate risks, including sea level rise.

Responding to the demand for family planning and reproductive health, especially in areas that are highly vulnerable to climate change, can slow population growth and reduce migration pressures.

Climate Migrants

People have always moved from place to place in search of greater opportunity, but climate change is expected to trigger larger and more complex waves of human migration. Disruption of ecosystem-dependent livelihoods will likely remain a leading driver of long-term migration over the next two to three decades, and climate change is likely to exacerbate this situation.¹

- **Estimates of future “climate migrants” range from 200 million to 1 billion by 2050.**² Projecting the number of people who will migrate due to climate change is an inexact science. This is largely because of uncertainties about the severity and location of future climate change impacts

and economic and social conditions, as people’s decisions to migrate typically result from linked environmental, social, and economic factors. In addition, the extent of future population growth and distribution is a critical underlying determinant. Nevertheless, the magnitude of climate-induced migration will be significant—putting pressure on infrastructure and services in receiving areas, undermining economic growth, and compromising the well-being of migrants.³

- **Climate change is considered a “threat multiplier” by experts in the security community, and climate-induced mass migration can contribute to heightened tension in the world.**⁴ Impaired access to food and water and severe weather are challenges that have historically led to tension and conflict. As more and more people are displaced or compelled to migrate in the face of these challenges, political, ethnic and religious tensions may result.⁵ A recent report by the National Intelligence Council (NIC) predicts that many people who migrate for economic reasons will perceive additional reasons to migrate due to harsh climates, both within countries and from developing to industrialized countries. “Many receiving nations,” the NIC warns, “will have neither the resources nor interest to host these climate migrants.”⁶
- **Those displaced by climate change lack legal status as “refugees.”** Often referred to as “climate refugees,” people displaced by climate change are not formally recognized as refugees. That term legally applies only to people who leave their home countries due to fear of persecution, war, or violence. Many who migrate due to climatic factors often relocate within their own countries, or cross borders due to a combination of environmental, social, political and economic factors. Therefore,



Climate change will contribute to food and water scarcity, will increase the spread of disease, and may spur or exacerbate mass migration. While climate change alone does not cause conflict, it may act as an accelerant of instability or conflict, placing a burden to respond on civilian institutions and militaries around the world.

— QUADRENNIAL DEFENSE REVIEW REPORT, U.S. DEPARTMENT OF DEFENSE, 2010. P 85.

it is difficult to designate climate change as a singular driver of migration. Despite the significant implications for human well-being, lack of official status means that climate migrants are unlikely to be recognized within current international refugee and immigration policy.⁷

- **Displacement due to climate change will take different forms and require different responses.** Millions of people may be forcibly displaced in response to *climate events*, such as floods, extreme weather, and sea level rise, which over time could render entire populations stateless.⁸ Others will be compelled to migrate due to more gradual changes associated with *climate processes*, such as shifting temperature and rainfall patterns that affect water supply and agricultural production. The characteristics and needs of these different categories of migrants are likely to vary widely, requiring a range of humanitarian and political responses.

Population Concerns

Demographic trends play an important role in vulnerability to climate change impacts and contribute to climate-induced migration. Yet population is often overlooked in the development of climate change adaptation strategies, including efforts to address climate-induced migration.

- **Rapid population growth contributes to the ecosystem degradation and resource scarcity that are key factors in climate-induced migration.** Population growth is already straining the world's limited supply of fresh water. Depending on future rates of population growth, between 2.9 billion and 3.3 billion people may be living in either water-scarce or water-stressed conditions by 2025, compared to 784 million people in 2005.⁹ In addition, population growth—in combination with income distribution, land tenure policies, and other factors—frequently pushes people to live on marginal lands. Under these circumstances, they are increasingly vulnerable to climate change impacts and limited in their ability to sustain livelihoods in changing climatic conditions.¹⁰
- **Many of the countries that are least able to cope with climate change impacts are experiencing high population growth rates.** The poorest countries and population groups are most vulnerable to climate change impacts.¹¹ Population growth is occurring most rapidly in the developing world, increasing the scale of vulnerability to climate change. If

current population growth rates remain constant, the population in 30 of the countries with low resilience ratings would double in less than 30 years,¹² greatly increasing both internal and cross-border migration pressures. These vulnerable countries include fragile states such as Somalia, Yemen and Afghanistan.

- **Geographic areas that are most vulnerable to climate change often overlap with areas of rapid population growth.** For example, the impacts of extreme weather and sea level rise are particularly significant due to high population density in and near low elevation coastal zones (see box on Bangladesh). Such zones cover 2 percent of the world's land area, but contain 10 percent of the world's population. Evidence suggests that in many parts of the world, the populations in these zones are growing quickly,¹³ exposing growing numbers of people to the negative effects of sea level rise and extreme weather, and increasing pressure to migrate to higher elevations.

Recommendations

Awareness of the relationships among climate change, population growth, and migration can shed light on policy responses that will help to alleviate current and future challenges associated with the impacts of climate change.

- **The United States and other industrialized countries should make significant new and additional investments in international adaptation efforts.** Studies of the annual costs of adaptation range up to \$100 billion.¹⁴ Investments in adaptation are critical in meeting the comprehensive adaptation needs of people who stand most at-risk to the impacts of climate change. Further, robust adaptation assistance will bolster national and global security, mitigate large-scale migration, and increase prospects for global cooperation on climate change.
- **Plans to address the impacts of climate change should be integrated with development goals that can reduce pressures to migrate, including meeting needs for family planning.** In areas of rapid population growth, greater attention is needed to meeting existing needs for family planning and reproductive health services—thus slowing population growth over the long term and contributing to greater resilience and adaptive capacity in the short term. Today, 215 million women wish to delay or end childbearing but lack meaningful access to modern contraceptives.¹⁵

Migration Pressures in Bangladesh

Densely Populated and Highly Vulnerable

Situated on the extensive, low-lying Ganges-Brahmaputra river delta, Bangladesh is particularly vulnerable to flooding, sea level rise, cyclones, and storm surges. Roughly 80 percent of its land area is coastal or inland floodplain.¹⁶ Climate change will worsen all these vulnerabilities.

Bangladesh is also one of the most densely populated countries in the world—at more than 1,000 residents per square kilometer, twice that of the most densely populated US state, New Jersey. Eighty-five percent of Bangladeshis live in the vulnerable coastal plains or inland floodplains.¹⁷ Flooding and extreme weather already contribute to increased domestic migration—particularly to major cities such as Dhaka and Chittagong.

Climate change is also expected to increase the flow of cross-border migration into India. Bangladesh's Finance Minister, Abul Maal Abdul Muhith, expects 20 million environmental refugees to be fleeing his country by 2050.¹⁸ In response, India began a \$1.2 billion project in 1999 to build a 2,500-mile-long, 12-foot-high steel fence along the border, and has amassed thousands of troops there.¹⁹

Meeting Needs for Family Planning Can Reduce Migration Pressures

Climate change vulnerability and migration pressures in Bangladesh depend in part on the uncertain path of future population growth (see graph). Fertility has declined steadily from an average of more than 6 children per woman to 2.7 today, but the need for family planning services remains high

and is growing. Currently, nearly 20 percent of married women would like to delay their next birth or end child-bearing, but aren't using a contraceptive method, up from about 10 percent in 2004.²⁰ Responding to this demand for family planning would benefit women's and children's health, likely increasing resilience to climate change and easing migration pressures.

Population and Migration Need a Place in Adaptation Plans

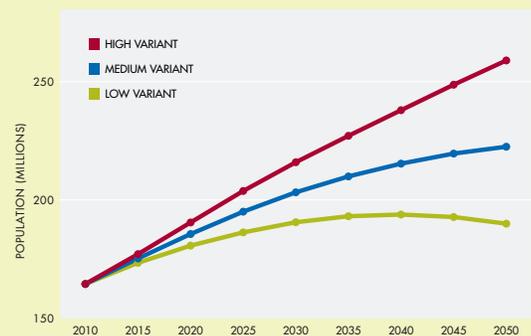
The government of Bangladesh has prepared a National Adaptation Program of Action (NAPA) that outlines priority climate change adaptation strategies, including tree-planting, providing reliable sources of drinking water, and improving agricultural techniques in areas impacted by salinization and flash flooding. The NAPA states that these efforts may help to reduce the "social problem of migration," but it does not include actions to address population pressures or plan for the continuing and inevitable flow of in-country or cross-border migrants.²¹

Understanding the relationships between population trends and climate change vulnerabilities will enable more effective and comprehensive adaptation planning in Bangladesh. Planning could both reduce migration pressures and prepare for a degree of migration that minimizes impacts on communities that receive migrants, and on the migrants themselves.



Flood-affected people wait for relief in the form of food and fresh drinking water in Dhaka, Bangladesh. Credit: © 2007 Monirul Alam, Courtesy of Photoshare

BANGLADESH POPULATION PROJECTIONS, 2010–2050



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, *World Population Prospects: The 2008 Revision*, <http://esa.un.org/unpp>. Accessed 22 June 2010.

CYCLONE RISK IN BANGLADESH Global Storm Frequency And Distribution From 1980 to 2000



Center for Hazards and Risk Research (CHRR), Columbia University; Center for International Earth Science Information Network (CIESIN), Columbia University; International Bank for Reconstruction and Development/The World Bank; United Nations Environment Programme Global Resource Information Database Geneva (UNEP/GRID-Geneva) 2005. Global Cyclone Hazard Frequency and Distribution Palisades, NY: CHRR, Columbia University. Available at: <http://www.ideo.columbia.edu/chrr/research/hotspots/>



Such services improve the health and well-being of women and families, contributing to coping abilities in times of climate stress. The US Agency for International Development (USAID) and other donors and foundations have a long history of delivering family planning in integrated population, health, and environment (PHE) programs. Such integrated development programs can further strengthen adaptive capacity and reduce the likelihood of large-scale, unplanned migration.

- **Adaptation plans should recognize that migration is an adaptation strategy.** While migration is often seen as a failure of adaptation, the impacts of climate change are such that migration should be meaningfully incorporated into adaptation plans where needed. Greater attention is required to assess and meet the needs of migrants themselves, as well as the needs of communities in sending and receiving areas.
- **Climate planners should examine the interplay of climate change vulnerabilities and population trends to identify areas that are likely to be migration “hotspots.”** Greater attention is required by governments, donors, and others engaged in adaptation planning to assess how demographic factors may affect climate-induced migration. Such analysis can shed light on multi-sectoral responses that can best address pressures that lead to unplanned, large-scale migration, while adequately planning for migration that will occur.

NOTES

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