

Key Points

- Climate change will increase the importance of environmental disruptions as a driver of migration
- Climate-induced migration will need to be addressed in the context of migration more generally and within a development framework given the economic, poverty, and social dimensions involved
- A key priority is to strengthen the resilience of communities to make migration an informed choice, rather than an act of desperation
- By reducing the risk of people to economic, environmental and other shocks, social protection enhances the possibility of communities remaining intact
- Most climate-induced migration will be internal, but international cooperation will be essential to effectively address cross-border migration
- The particular vulnerabilities of women must be taken into consideration when designing policies and program
- With timely policies and investments, migration can be used as a tool of climate change adaptation

Facing the Challenge of Environmental Migration in Asia and the Pacific

An ADB project that is developing policy and financing responses to environmental migration has determined that climate change will increase forced migration due to environmental disruptions in Asia and the Pacific. However, the adoption of timely policies and programs can convert such migration from a threat into an opportunity to promote improved livelihoods and sustainable development. The project emphasizes the importance of boosting the capacity and resilience of vulnerable communities.

The Asia and Pacific region is expected to be one of the global regions most severely affected by climate change, with the heaviest toll likely to be seen in the Pacific, South Asia, and Southeast Asia. The impact of severe weather is already being felt. In 2010, more than 30 million people in the region were displaced by environmental disasters, including floods and storms. While many of the displaced later returned to their homes when flood waters subsided, some became migrants because they decided to seek more secure lives elsewhere or simply could not return to their communities.

The region is highly exposed to environmental risks, has by far the highest population density of any continent—especially along coasts—and is home to the largest number of people living in poverty. Globally, 8 of the 10 countries with the largest number of people living in low-elevation coastal zones are in this region.

Migration driven by environmental factors is emerging as a serious concern, one that demands urgent attention from decision makers. Policy actions taken now can prevent the emergence of humanitarian crises in years to come by promoting resilience in affected communities, greater capacity in receiving communities, and orderly, well-managed flows of both internal and external migration.

Understanding Environmental Migration Trends

Asia and the Pacific is undergoing massive and rapid socioeconomic transformation. It is home to 4 billion people, representing three-fifths of humanity. It is also home to the most important source of international migrants worldwide. A striking trend in the region has

Countries Most Vulnerable to Climate Change

In 2010, Maplecroft, a risk analysis firm, produced the Climate Change Vulnerability Index using 42 separate social, economic, and environmental indicators to calculate the vulnerability of 170 countries to the impacts of climate change over the next 30 years. Sixteen countries, including fast-growing economies in Asia, were identified as being at extreme risk. The countries with the most risk are characterized by high levels of poverty, dense populations, exposure to climate-related events, and reliance on flood- and drought-prone agricultural land.

The index rates 16 countries as being at “extreme risk,” including 10 in Asia:

- Bangladesh
- India
- Madagascar
- Nepal
- Mozambique
- Philippines
- Haiti
- Afghanistan
- Zimbabwe
- Myanmar
- Ethiopia
- Cambodia
- Thailand
- Malawi
- Pakistan

Source: Maplecroft, <http://maplecroft.com/about/news/ccvi.html>.

been an increase in the level and complexity of population mobility against a backdrop of steady urbanization.

Recurring environmental events, such as droughts and floods, degrade natural resources and often lower soil productivity and increase soil erosion. These events will contribute to ongoing labor migration from rural to urban areas, which is particularly pronounced in countries with fast-growing economies with booming urban hubs.

Future migrants, including those displaced by environmental disruptions, are expected to further use existing migration corridors and channels. Most environmentally driven migration is likely to be internal migration, and the migration channels likely to be used are those that have already been utilized by family or community members, or those leading to places where jobs are available. As for international migration, cross-border channels linked with labor programs or family reunification will be among the most extensively used.

While current environmental migration cannot be attributed to climate change, climate change is expected

Most environmentally driven migration is likely to be internal

to exacerbate displacement in Asia and the Pacific through both sudden and slow-onset events, such as sea-level rise. The growing population of the region, including residents of large cities in vulnerable low-lying coastal areas, puts more people at risk each day.

Climate change will not necessarily create a distinct category of migrant, but rather can be expected to interplay with other drivers of migration, possibly influencing existing migration patterns. A series of different, intermingled factors—of which the environment is one—determines migration. The choice of the response will greatly depend on the information that is available, both in regard to climate impacts and migration possibilities.

Temporary or seasonal migration often occurs among households with land or other assets, such as cattle. Often impoverished people with few assets have little capacity to migrate, but younger households with fewer dependents are more likely than others to relocate. Permanent or long-term migration is commonly a rural-to-urban phenomenon. In particular, circular migration—where people move to cities for work or in anticipation of hazards, such as floods, and return after some months—is a traditional way of coping with recurring hazards.

Rapid-onset disasters of an exceptional magnitude are more likely to induce “distress migration”. This often occurs over short distances and is temporary, with most households returning to their community of origin as soon as it is habitable once more. Some, however, might not be willing or able to return.

Only a small percentage of families can afford to move abroad, although this pattern appears to be increasing throughout Asia and the Pacific. International migration will most likely follow well-worn routes of migration as these are the paths of least resistance. Traditional migration routes are explained by sociocultural connections, or labor and economic relations.

Sending a family member to work abroad is uniformly seen as a very effective livelihood diversification strategy, and has been shown to greatly reduce vulnerability of households to both slow and rapid onset climatic events. On the other hand, international migration can raise concerns about economic costs and social integration in the receiving countries, as well as brain drain in states of origin.

Distinguishing between forced and voluntary migration can be a challenging task. Migration sometimes starts as a partially voluntary process, but becomes a compelled process when natural resources are depleted, or when

Forecasted Population at Risk from Sea Level Rise in 2050, Top 10 Countries Globally (in million)

India	37.2
Bangladesh	27.0
China, People's Republic of	22.3
Indonesia	20.9
Philippines	13.6
Nigeria	9.7
Viet Nam	9.5
Japan	9.1
United States	8.3
Egypt	6.3

Other Asian countries in the Top 20: Republic of Korea (12), Myanmar (13), Malaysia (16), Thailand (20).

Source: David Wheeler, Quantifying Vulnerability to Climate Change: Implications for Adaptation Assistance - Working Paper 240, Center for Global Development, Washington, DC, USA, January 2011. <http://www.cgdev.org/content/publications/detail/1424759/>

land becomes uninhabitable. Both render livelihoods impossible and make developing policy options even more difficult and complex. Over time, the line between forced and voluntary migration often blurs.

Integrating Environmental Migration into the Development Agenda

In recent years, policy debates on environmental migration have tended to focus on humanitarian assistance and legal protection, yet this is too limiting. This type of migration should instead be addressed in the broader context of migration more generally, and as part of the development agenda. A key priority is to strengthen the resilience of communities to make migration an informed choice rather than an act of desperation. Asia and the Pacific offers many examples of communities that manage repeated environmental threats, such as in Bangladesh, which has developed ways to cope with regular flooding.

There are several tools at a government's disposal to boost community resilience. One is social protection, including labor market measures and social safety net programs. By reducing the risk of people to economic, environmental and other shocks, social protection enhances the possibility for people to remain in place. Another critical area in a disaster-prone region is disaster risk management. Not all people are subject to the same environmental hazards. Those living in poverty disproportionately reside in environmentally degraded

places, highly exposed areas, and vulnerable habitats. They have lower levels of prevention and response capabilities, savings, and assets.

Climate change will reinforce the strong urbanization trend in the region, thereby accentuating the need for upgraded soft and hard infrastructure in cities. Urban planning should include incentives for people to settle in less vulnerable areas, and portable social benefits for incoming migrants. Asia's megacities generally lack the capacity to accommodate further large inflows of people. Urban development patterns will need to be re-thought so that cities can grow in a more sustainable way, and provide adequate basic services to their residents. Such considerations are among the reasons why the political discourse in Indonesia has included talk of moving the country's capital from Jakarta, a city of 10 million inhabitants.

Migration for Adaptation

Environmental migration has often been presented as a solution of last resort, a desperate flight that signals a failure to adapt to a changing climate. As a result, migrants have often been portrayed as resource poor, helpless victims of environmental forces beyond their control. Yet it is increasingly recognized that migration can also be used by migrants as an adaptation strategy, with migrants from rural to urban areas tending to gain assets after having moved.

In many countries of the region, migration—both internal and external—is a very divisive issue. It touches upon a confluence of interests, as richer countries accommodate migrants from poorer countries in order to fill gaps in the labor market, support an aging population, and contribute to economic growth. At the same time, these migrants send remittances to their families, which diversify their sources of income and reduce their vulnerability to environmental changes.

With regard to international migration, there are many examples of mutually benefiting migration agreements throughout the region. Such agreements

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could be expanded as a way for communities affected by environmental changes to better cope with these changes. Overall, reducing the barriers to migration—both within and across countries—and facilitating regional mobility could greatly benefit the migrants as well as the origin and destination regions and countries.

Sending regions can also take a number of actions to allow the poor to harness greater benefits from migration. Particular attention should be paid to social groups that lack the means to adjust. Lowering the costs of movement benefits the poor and allows them to participate in migration, which they can use to escape poverty. Internal restrictions of many developing countries are also a key impediment for pro-poor migration, such as the time-intensive, costly passport acquisition process, and restrictions on free movement for certain groups, such as women (for cultural and economic reasons). In a world of increasingly skill-selective immigration policies, opportunities need to be increased for poor, less-skilled, and marginalized people to take part in and benefit from migration.

Climate change impacts and the use of migration as a coping strategy are far from gender neutral. Women are often more vulnerable to environmental threats and, in many developing countries of Asia and the Pacific, are less empowered than men to make decisions about mobility.

Improving the Knowledge Base

There are many gaps in the current knowledge of migration characteristics. Formulating sensible policy will not be possible without better knowledge about migration dynamics where they interact with environmental conditions. A key problem is a lack of reliable, regularly updated data. For many states in Asia and the Pacific, there is a particular problem with data related to the location, extent, timing, and nature of climate change and its likely impacts, as well as the patterns of internal and international mobility.

Improved data collection, modeling, and analysis of both climate change and migration are needed in the region. Statistical facilities need to be developed as data on both internal and cross-border migration is not consistently collected in many countries.

Research capacities in the region also need to grow. A promising avenue for this lies in collaboration between

local researchers, who can learn from each other, and researchers from across subregions. More local researchers should be trained about this issue to facilitate studying it with local expertise and to draw upon the knowledge and experience of local communities coping with changing environmental conditions or regular environmental disruptions.

Policy-relevant research is needed for several reasons, including to

- understand how slow-onset environmental changes affect migration
- identify trends of environmental migration among different population groups (e.g., by area of residence, sex) in countries and subregions
- ascertain the likely impact of climate change on migration behaviors
- identify tipping points for migration
- improve understanding of circular migration
- gain insight into the economic impacts of emigration on sending and destination communities/countries
- assess situations of protracted displacement
- study how climate change will impact labor conditions

Most of these areas will need qualitative information, which is absent in many cases. More and higher quality empirical studies on climate-induced migration are necessary to ensure that policy responses can rely on a more robust understanding of migration patterns, drivers, and networks.

Developing Capacities and International Cooperation

For migration to play a useful role as an adaptation mechanism to the effects of climate change in a way

Climate change impacts and the use of migration as a coping strategy are far from gender neutral

that does not result in further deterioration of the living conditions of the affected communities, appropriate policies and programs need to be formulated and put into operation. Effective management of migration, both international and internal, will be required if migration is to play a practical role in responding to climate change. Building sound migration management capacity to enable this is a fundamental requirement.

Promoting regional cooperation will be critical. Dialogue and deliberation that enable knowledge sharing, risk pooling, and security provision for environmental migrants—both internal and international—should therefore be the core agenda. Personal security concerns will be particularly crucial in the case of women migrants as they are more likely to be exposed to sexual violence, trafficking, and other risks.

Overall, adequate protection frameworks will be needed on a regional and global scale. Currently, there are no international legal frameworks that specifically target the people displaced by environmental disruption. Numerous instruments, mechanisms, and voluntary guidelines exist but are not fully utilized in practice. It is important to raise awareness of these tools and work toward filling policy gaps.

In principle, economic factors have been and still are the main driver of migration in most countries of Asia and the Pacific. It can be expected that environmental factors will exert a more important role in the future in many developing countries, and strategy and policy frameworks for development need to be harmonized with environmental and migratory policies.

Funding of Environmental Migration

No international funding source, development agency, or relief organization is dedicated exclusively to climate change and migration, but several types of funds and organizations may be involved. A large number of nongovernment organizations and privately funded charities are also engaged in activities related to climate-induced migration.

Organizations dedicated to migration provide resources for migration under certain circumstances. In addition to inter-governmental organizations, the governments of some Asian countries have implemented large-scale relocation initiatives supported by the government.

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Disaster relief organizations typically facilitate short-distance migration to camps or other temporary shelter with the intent of returning migrants to their homes as soon as the affected area is habitable again. When disasters necessitate long-term or permanent migration, funding may come from public or private sources depending on individual circumstances.

In recent years, development banks and international organizations have looked into improving systems for financing disaster response through better preparedness, combined with risk transfer mechanisms available in insurance and capital markets. Insurance penetration is particularly low in Asia and the Pacific despite an abundance of reinsurance capacity for catastrophe risk.

The development and maturing of the insurance market in Asia would have numerous positive side effects including improved prospects to support the needs of post-disaster migrants through traditional insurance coverage, microinsurance, or insurance-backed social protection schemes. Robust insurance markets would also reduce dependence on international aid, improve resources for modeling and managing risk (including climate-related risks), and help establish order and transparency in distribution of relief aid.

Concern about climate change has spawned several new international funding mechanisms beginning with the United Nations Framework Convention on Climate Change (UNFCCC) in 1994. Among the climate change funds, some are dedicated to reducing the causes, while others also address the effects of climate change. The Green Climate Fund that was agreed upon at the Cancun Climate Conference in 2010 is expected to be implemented from 2020 onwards. Article 14f enables migration schemes and policies to be funded as adaptation mechanisms. In the coming years, it will be crucial to better define how the fund can be used to finance migration arrangements and policies.

Indicative Policy Recommendations

- Actively pursue mitigation efforts to reduce the potential negative environmental and social impact of climate change
- Treat environmental migration within the context of migration and sustainable development
- Strengthen the resilience of communities through disaster risk management, creation of livelihood opportunities, and the facilitation of remittances
- Improve access to education, health and social protection by migrant workers
- Upgrade urban infrastructure, including basic services
- Amend laws, zoning regulations, and other practices that encourage people to settle in areas at particular risk of environmental disruptions
- Invest in the knowledge base on the likely impacts of climate change on human mobility
- Lower information, financial, and regulatory barriers to emigration, and expand international labor migration opportunities through bilateral accords that provide worker protections
- Nurture a market for private risk insurance supporting adaptation
- Ensure that the Green Climate Fund provides resources to address human mobility caused by environmental disruption
- Strengthen international collaboration on migration issues
- In cases where communities must relocate, draw on good international practice in resettlement, involving communities in the decision making
- Give special attention to vulnerable environmental migrants, such as women, in policies and programs

Remittances are a major contributor to development and household risk reduction. Remittances reduce the need for migration in sending communities and countries. However, they should not be considered a substitute for public investments or official development assistance. Remittances should rather be seen as private income that can complement public sources of adaptation funding. Policies and technologies that reduce the cost and time to deliver remittances warrant attention.

For example, mobile phone companies in the Philippines have led the innovation of mobile phone banking that Filipinos increasingly use to send and receive domestic remittances without needing access to formal banking services. These products especially benefit migrants in rural areas far from banks, who lose hours or days of productivity while traveling to the nearest place where they can send remittances.

Asian Development Bank

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