# IOM Policy Brief

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# Migration, Climate Change and the Environment

This Policy Brief presents key information and analysis on the interplay between migration, climate change and the environment. It is designed as a general introduction to the topic and presentation of the perspective and involvement of the International Organization for Migration (IOM) in this field. For further information, please visit the IOM webpage on Migration, Climate Change and Environmental Degradation: http://www.iom.int/envmig.

## I. Migration, Climate Change and the Environment: A Complex Nexus

Environmental factors have long had an impact on global migration flows. Although there is limited reliable data on the subject, the scale of such flows, both internal and cross-border, is expected to rise significantly over the next decades as a result of climate change.

- The most widely cited figure is one put forward by Norman Myers of Oxford University, who suggests that up to 200 million people could be on the move due to environmental factors by 2050 (see, for example, Stern Review Report on the Economics of Climate Change).
- All in all, forecasts of the number of persons having to move due to climate change and environmental degradation by 2050 vary by a factor of 40 (between 25 million and one billion) and largely depend on which of the scenarios for the advance of climate change put forward by the Intergovernmental Panel on Climate Change[1] will materialize.

Essentially, there is a two-way relationship between migration and the environment: environmental factors precipitate migration and migration affects the environment. Climate change adds a new complexity to this nexus by exacerbating environmental degradation. The Intergovernmental Panel on Climate Change (IPCC) posited as early as 1990 that "the gravest effects of climate change may be those on human migration". [2]

- Environmental factors, both fast- and slow-onset, can induce migration: for example, Cyclone Nargis that struck the Irrawaddy Delta region in Myanmar in May 2008 severely affected 2.4 million people and led to the displacement of 800,000 people. Desertification affecting Mexico's dryland regions leads 600,000 to 700,000 people to migrate from these areas annually. [3]
- Migration, especially a mass influx of migrants, can affect the environment in places of destination and along the route to that destination: in particular, unmanaged urbanization as well as camps and temporary shelters can produce strains on the environment as was the case in the region of Goma in the mid-1990s when hundreds of thousands of Rwandans fled into Zaire (now the Democratic Republic of the Congo).

**IOM addresses linkages between the environment and human settlement and population movement from a human mobility perspective.**

Many other issues, such as conflict, human rights, gender, levels of development, public health as well as governance questions, affect the migratory consequences of environmental factors.



- Higher death rates for women as a result of natural disasters are directly linked to the socio-economic status of women in affected societies and the degree to which women enjoy economic and social rights. Statistically, natural disasters kill more women than men, and kill women at a younger age than men. Behavioural restrictions and poor access to information and resources can directly affect a woman's chances of survival during a natural disaster or its aftermath. Their role as the main caregivers in many societies also means that women tend to look after their children's safety before their own. As an illustration, the death rate was almost five times as high for women as for men in connection with the 1991 cyclone and flood in Bangladesh. [4]

Migration has long been a strategy by which humans adapt to their environment

- Climate change is predicted to increase threats to human health, particularly in lower income populations, and predominantly within tropical/subtropical countries. [5] Health challenges arising from population displacement and conflict are unlikely to stay confined within national borders, [6] and human mobility today makes it difficult to control the spread of infectious diseases.

Migration is often seen as the result of a failure to adapt to a given situation. Migration, however, is and always has been an integral part of the interaction of humans with their environment. It should therefore also be recognized as one possible adaptation strategy, especially at early stages of environmental degradation. Migration reduces reliance on the environment for livelihoods by allowing, for example, for income diversification through remittances. The contributions of migrants through the transfer of knowledge and skills upon return can also significantly strengthen the livelihoods of families and communities facing environmental challenges.

- In Ghana, migration from the north to the south is a typical strategy to deal with structural scarcities of rainfall, food and land; these movements actually declined during times of severe drought and food crises.
- Before the political instability in Côte d'Ivoire in 1999, drought-prone villages in Burkina Faso regularly and in large numbers sent members of the community to Côte d'Ivoire to work on plantations. The remittances they sent home were often invested in schools and hospitals as well as water and irrigation systems.
- Guatemala is a country frequently exposed to natural disasters, yet it is estimated that less than 1 per cent of Guatemalans living abroad have migrated for this reason. Instead, Guatemalans living abroad support disaster-affected populations back home by habitually sending remittances for reconstruction. [7]
- In Colombia, an IOM Temporary and Circular Labour Migration programme offers safe migration opportunities to individuals from communities affected by natural disasters and maximizes the impact of remittances on the area's recovery through public-private co-financing, channelling funds towards productive investments in housing and education.

## II. Differing Impacts: Gradual Environmental Degradation and Natural Disasters



Environmental drivers of migration are often coupled with economic, social and developmental factors that can accelerate and to a certain extent mask the impact of climate change. As has been mentioned, migration can result from different environmental factors: gradual environmental degradation (including desertification, soil and coastal erosion) and natural disasters (such as earthquakes, floods or tropical storms).

Different types of environmental processes and events produce different forms of movement, which in turn impact differently the affected population. The following are general tendencies:

1. Natural disasters tend to destroy homes, villages, farms and businesses and hence lead to sudden, large-scale movements. They also result in high casualties and place a heavy burden on health systems often unable to care for the needy displaced. Return may not be feasible in the long term.
   - Hurricane Katrina, which hit the United States in August 2005, caused the displacement of about 1.5 million people. It is estimated that some 300,000 may never return. [8]
2. Environmental degradation at early and intermediate stages often leads to temporary migration. This migration often has secondary social, economic and other impacts.
   - By the early 1990s, rural migration had become a structural phenomenon in Tambacounda, an area of Senegal affected by soil erosion: 90 per cent of the region's men between the age of 30 and 60 had migrated at least once in their lifetime. This loss of men posed challenges for efforts

**People migrating for environmental reasons do not fall squarely within any one particular category provided by the existing international legal framework.**

to rehabilitate degraded lands and increased the economic burden on the remaining women and children. [9]

3. When environmental degradation becomes severe or irreversible, resulting migration can become permanent and may require relocation of affected populations.

   - The Sertão region in the northeast of Brazil is repeatedly struck by drought periods and dry seasons that affect nearly all agricultural activities, in particular peasant, small and medium size producers. Between 1970 and 2005, some 60 million people migrated from rural to urban areas within Brazil, most from the Sertão region. [10]

Environmental impact should be considered in camp management

4. Gradual environmental degradation is expected to cause the majority of environmental migration.

   - In Africa, an estimated 10 million people have migrated or been displaced over the last two decades mainly because of environmental degradation and desertification. [11]

5. Least developed countries, due to their low adaptive capacity, and countries with particularly susceptible geographies (such as small island states) are most vulnerable to the effects of environmental degradation and climate change.

   - Over 97 per cent of all casualties related to natural disasters occur in developing countries. [12]
   - Papua New Guinea's Carteret Islands have been the first low-lying islands to evacuate their population due to climate change. The Carterets are among the hardest hit islands in the Pacific and may be completely submerged by as early as 2015. In 2005, a political decision was reached to evacuate the Carteret Islands and resettle its population of 2,600 islanders to the larger Bougainville Island.

6. Environmental pressures exacerbate pre-existing vulnerabilities and accentuate underlying social fault lines. Economically and socially marginalized groups within society will be worst affected. Migrants also experience increased vulnerability post-disaster due to compromised access to services in affected areas as well as potential language and cultural barriers. For irregular migrants and migrants who have lost their documents as a result of the disaster, access to assistance might be particularly difficult.

   - After Hurricane Katrina, patterns of distress divided along ethnic and socio-economic lines in New Orleans. Some migrants caught up in the Hurricane had difficulty accessing aid due to fears of reprisals, or loss of identity documents.



## III. Terminology and Definitions

No internationally accepted term exists to date for persons moving for environmental reasons. People migrating for environmental reasons do not fall squarely within any one particular category provided by the existing international legal framework. Terms such as "environmental refugee" or "climate change refugee" have no legal basis in international

refugee law. There is consensus among concerned agencies, including UNHCR, that their use is to be avoided. These terms are misleading and could potentially undermine the international legal regime for the protection of refugees.

In an effort to capture the complexity and breadth of the phenomenon, IOM has advanced the following working definition of environmental migrants: [13]

> "Environmental migrants are persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their homes or choose to do so, either temporarily or permanently, and who move either within their country or abroad."

Environmental migration is often driven by recurrent droughts

A clear distinction between "forced" and "voluntary" instances of migration related to environmental factors is difficult to make, except in cases of imminent and acute disaster. Instead, it is possible to imagine a continuum from clear cases of forced migration to clear cases of voluntary migration, with a large grey zone in between. A holistic, human security-oriented approach to environmental migration is needed to address all forms of movement comprehensively, putting the migrant at the centre of concern rather than focussing on formal legal categories.



## IV. IOM's Perspective and Involvement: A Focus on Human Mobility

As the leading inter-governmental organization in the field of migration, IOM addresses linkages between the environment on the one hand and human settlement and population movement on the other hand from a human mobility perspective. IOM's involvement and interest in the relationship between migration and the environment is long established. The increasingly irrefutable evidence regarding climate change and its impacts has added renewed impetus to IOM's efforts in this field.

**Migration should be recognized as one possible adaptation strategy.**

IOM provides advice on policies and practices appropriate to addressing the challenges facing mobile populations today, including those resulting from natural disasters or gradual environmental degradation, and implements relevant programmes and projects. IOM's policy and research activity in this field began with a publication on the issue of migration and the environment in 1992. [14] In 1996, IOM co-organized a symposium on "Environmentally-induced Population Displacements and Environmental Impacts Resulting from Mass Migrations". In recent years, IOM, together with a range of partners, has held several events on the subject:

- IOM and United Nations Population Fund (UNFPA), Expert Seminar on Migration and the Environment (Bangkok, February 2007). [15]
- 94th Session of the IOM Council, High-level panel on Migration and the Environment (Geneva, November 2007). [16]

- Human Security Network (HSN) (Government of Greece and IOM), Conference on Climate Change, Environmental Degradation and Migration: Addressing Vulnerabilities and Harnessing Opportunities (Geneva, February 2008). [17]
- IOM and United Nations University (UNU), in collaboration with United Nations Environment Programme (UNEP), with the support of the Munich Re Foundation and the Rockefeller Foundation, Research Workshop on Migration and the Environment: Developing a Global Research Agenda (Munich, April 2008). [18]
- IOM, the United Nations Institute for Training and Research (UNITAR) and UNFPA, sponsored by the MacArthur Foundation, Workshop on Climate Change, Environmental Degradation and Migration: Preparing for the Future (New York, May 2008). [19]

Climate change is predicted to lead to more extreme weather events

IOM is committed to promoting the Organization's work on migration and the environment through its publications and commissioning forward-thinking research on this increasingly important issue. IOM has dedicated a number of recent publications to exploring and improving understanding of the links between migration, environment and climate change as well as the role of other mediating factors, such as development. For a list of relevant publications, please refer to the bibliography at the end of this policy brief.



Major natural disasters have increasingly demanded emergency and other operational responses from IOM, starting with Hurricane Mitch in 1998, and growing in frequency since the Indian Ocean Tsunami in 2004. Within the context of the United Nations and international humanitarian community's efforts to coordinate responses to humanitarian disasters, IOM is responsible for displacement following natural disasters, as the global cluster lead for Camp Coordination and Camp Management (CCCM).

- In 2007-2008, IOM carried out more than 60 projects related to natural disaster in some 27 countries on four continents.
- Funding to address natural disasters has increased from one-fifth in 2006 to one-quarter in 2008 of the total funding received by IOM under coordinated inter-agency joint appeals. To illustrate, IOM participated in some 22 "flash appeals" for funding related to natural disasters in 2007 and 2008 to be able to provide some USD 43 million in assistance for the benefit of affected populations.

In addition, IOM has been implementing population stabilization projects in areas of high migration pressure, many of which have been aimed at strengthening the coping capacity of communities affected by environmental degradation.

Through its programmatic activity, IOM is also applying migration management tools to prevent and mitigate the negative effects of the movement of people on the environment, including in cases of mass migration.

IOM is committed to close cooperation and partnerships with all relevant international and non-governmental organizations, governments and other stakeholders to develop more comprehensive strategies to better manage environmental migration and to address potential impacts of migration on the environment.

## V. The Way Forward: IOM's Perspective

This policy brief has presented IOM's thinking on the issue of migration, climate change and the environment as well as the Organization's perception of the challenges and opportunities. With a cross-cutting issue such as this, no one agency or stakeholder alone holds the key to the solutions. IOM pursues collaborative approaches, including efforts to:

- Raise policy and public awareness of the need for concerted action to address the challenges presented by the climate change, environmental degradation and migration nexus.
- Support further research to improve the knowledge base regarding the complex relationships between climate change, environmental degradation and migration in terms of cause and consequence, long-term as well as short-term patterns.
- Develop policy coherence at national and international levels by mainstreaming environmental and climate change considerations into migration management policies and practice, and vice-versa, and by strengthening linkages with other relevant policy domains, such as development and humanitarian action.
- Bolster humanitarian action with adequate resources to meet the growing challenge of climate change, including measures to ensure adequate assistance and protection for people on the move as a result of environmental factors.
- Minimize forced displacement and facilitate the role of migration as an adaptation strategy to climate change by, for instance, developing temporary and circular labour migration schemes with environmentally-vulnerable communities, where appropriate, particularly at less advanced stages of environmental degradation, and seeking to strengthen the developmental benefits of such migration for areas of origin.

**No one agency or stakeholder alone holds the key to the solutions and IOM wishes to play its part in collaborative approaches.**



## VI. IOM Publications

1. IOM Migration Research Series No. 30 (2007) "Migration, Development and Natural Disasters: Insights from the Indian Ocean Tsunami".

2. IOM Migration Research Series No. 31 (2007) "Migration and Climate Change".

3. IOM Migration Research Series No. 33 (2008) "Climate Change and Migration: Improving Methodologies to Estimate Flows".

4. IOM Migration Research Series No. 35 (2008) "Migration Development and Environment".

5. International Dialogue on Migration No. 10 (2008) "Expert Seminar: Migration and the Environment".

6. Conference Report (Geneva, 19 February 2008) "Climate Change, Environmental Degradation and Migration: Addressing Vulnerabilities and Harnessing Opportunities".

7. IOM Guatemala (2008) "Survey on Remittances 2008 and Environment", Working Notebooks on Migration, No. 26; http://www.oim.org.gt/documents/Working%20Notebook%20No.%2026.pdf.

8. Publications Flyer: http://www.iom.int/jahia/webdav/shared/shared/mainsite/activities/env_degradation/flyer_env_series.pdf

## VII. Further Reading

1. Afifi, T. and K. Warner (2007) "The Impact of Environmental Degradation on Migration Flows Across Countries", UNU-EHS Working Paper No. 3, Bonn.

2. Black, R. (2001) "Environmental Refugees: Myth or reality?", UNHCR Working Paper No. 34, Geneva.

3. Brown, O. (2007) "Climate change and forced migration: Observations, projections and implications", Thematic Paper for the Human Development Report 2007/2008, Geneva.

4. Church, J.A., N.J. White and J.R. Hunter (2006) "Sea Level Rise at Tropical Pacific and Indian Ocean Islands", Global and Planetary Change, Vol. 53, pp. 155-168.

5. Elliott, J.R. and J. Pais (2006) "Race, class, and hurricane Katrina: Social differences in human responses to disaster", Social Science Research, No. 35, pp. 295-321.

6. Gender and Disaster Network (2007) "The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981-2002", http://www.relief-web.int/rw/lib.nsf/db900SID/SHIG-7ELHDA?OpenDocument.

7. Hampshire, K. (2002) "Seasonal labour migration strategies in the Sahel: coping with poverty or optimising security?", International Journal of Population Geography, No. 5, pp. 367-385.

8. Leighton, M. (2006) "Desertification and Migration", in Johnson, P.M., Mayrand, K., Pacquin, M. (eds), Governing Global Desertification, Ashgate, U.K., pp. 43-58.

9. Myers, N. (2002) "Environmental refugees: A growing phenomenon of the 21st century", Philosophical Transactions of the Royal Society of London Series Biological Sciences, Vol. 357 (1420), pp. 609-613.

10. Refugee Studies Centre (2008) "Climate Change and Displacement", Forced Migration Review, Issue 31, Oxford.

11. Zetter, R. (2007) "More Labels, Fewer Refugees: Making and Remaking the Refugee Label in an Era of Globalisation". Special issue on Research Methodologies and Refugee Studies, Journal of Refugee Studies, Vol. 20, No. 2, pp. 172-192.



## Endnotes

1 The IPCC bases its projections on six emission scenarios. See IPCC Fourth Assessment Report (2007), http://www.ipcc.ch.

2 IPCC First Assessment Report (1990) at p. 103, para. 5.0.10.

3 Leighton, M. "Summary of Desertification and Drought-Related Migration", Paper prepared for the IOM/UNU Research Workshop on Migration, 17-18 April 2008.

4 UK Department for International Development (DFID) (June 2008) "Gender and Climate Change: Mapping the Linkages. A scoping study on knowledge and gaps".

5 IPCC Third Assessment Report (2001), http://www.ipcc.ch.

6 Neira, M. et al (2008) "The Year 2008: A Breakthrough Year for Health Protection from Climate Change?" American Journal of Preventive Medicine, Vol. 35, Issue 5, pp 424-425.

7 IOM Guatemala (2008) "Survey on Remittances 2008 and Environment", Working Notebooks on Migration, No. 26, http://www.oim.org.gt/documents/Working%20Notebook%20No.%2026.pdf.

8 Grier, P. "The great Katrina migration", The Christian Science Monitor, 12 September 2005. http://www.csmonitor.com/2005/0912/p01s01-ussc.html, cited in Renaud et al. (2005), Control, adapt or flee? How to face environmental migration?, UNU Publication Series InterSecTions, No. 5/2007.

9 Seck. E. (1996) Désertification: effets, lutte et convention, ENDA-Tiers Monde, Dakar.

10 Morales, C. "Desertification, degradation and migration in Latin America and the Caribbean", Paper prepared for the IOM/UNU Research Workshop on Migration, 17-18 April, 2008.

11 de Kalbermatten, G. (2008) "Desertification, Land Degradation and Drought as Push Factors of Forced Migrations", http://www.iom.int/jahia/webdav/shared/shared/mainsite/events/docs/hsn/hsn_address_kalbermatten.pdf.

12 UN Office for the Coordination of Humanitarian Affairs (OCHA) (2008) Climate Change Risks Overwhelming Current Global Humanitarian Capacity, http://www.reliefweb.int/rw/rwb.nsf/db900sid/EDIS-7LYLUA?OpenDocument.

13 This definition was put forward at the 94th IOM Council. See background paper MC/INF/288 (http://www.iom.int/jahia/webdav/site/myjahiasite/shared/shared/mainsite/microsites/IDM/workshops/evolving_global_economy_2728112007/MC_INF_288_EN.pdf). It also appears in World Migration 2008: Managing Labour Mobility in the Evolving Global Economy, IOM, Geneva (http://www.iom.int/jahia/Jahia/cache/offonce/pid/ 1674?entryId=20275) at p. 399, and in various other publications.

14 IOM and the Refugee Policy Group (June 1992), Migration and the Environment, Conference Report.

15 All material from the Expert Seminar can be found at http://www.iom.int/jahia/Jahia/eventGLOBAL/cache/offonce?entryId=13112.

16 All materials from the high level panel of the 94th IOM Council can be found at http://www.iom.int/jahia/Jahia/pid/1915.

17 All materials from the HSN Conference can be found at http://www.iom.int/hsnconference.

18 All materials from the Research Workshop can be found at http://www.iom.int/jahia/Jahia/eventEU/cache/offonce?entryId=16923.

19 All materials from this workshop can be found at http://www.un.int/iom/Env%20Mig.html.



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