The opinions expressed in the report are those of the authors and do not necessarily reflect the views of the International Organization for Migration (IOM). The designations employed and the presentation of material throughout the report do not imply the expression of any opinion whatsoever on the part of IOM concerning the legal status of any country, territory, city or area, or of its authorities, or concerning its frontiers or boundaries.

IOM is committed to the principle that humane and orderly migration benefits migrants and society. As an intergovernmental organization, IOM acts with its partners in the international community to: assist in meeting the operational challenges of migration; advance understanding of migration issues; encourage social and economic development through migration; and uphold the human dignity and well-being of migrants.
FOREWORD

This paper is one of 19 background papers which have been prepared for the IOM, 2010 World Migration Report which is entitled the “Future of Migration: Building Capacities for Change”. The 2010 report focuses on likely future trends in migration and the capacities that will be required by States, regional and international organizations, civil society and the private sector to manage migration successfully over the coming decades.

Over the next few decades, international migration is likely to transform in scale, reach and complexity, due to growing demographic disparities, the effects of environmental change, new global political and economic dynamics, technological revolutions and social networks.

The 2010 World Migration Report focuses on capacity-building, first because it is good governance to plan for the future, especially during a period of economic downturn when the tendency is to focus on immediate impacts and the short-term period of recovery. Second, capacity-building is widely acknowledged to be an essential component of effective migration management, helping to ensure the orderly and humane management of migration.

Part A of the World Migration Report 2010 focuses on identifying core capacities in key areas of migration management. The aim is not to recommend “one size fits all” policies and practices, but to suggest objectives of migration management policies in each area, to stimulate thinking and provide examples of what States and other actors can do.

Part B of the World Migration Report 2010, provides an overview of the latest global and regional trends in migration. In recognition of the importance of the largest global economic recession since the 1930s, this section has a particular focus on the effects of this crisis on migrants, migration and remittances.

Frank Laczko
Head of the Research and Publications Division
IOM Headquarters
Geneva, Switzerland
Email: flaczko@iom.int
Experts generally agree that environmental change is but one of the many reasons that people migrate. Sometimes it is the only reason but more often it is combined with other factors – particularly loss of livelihoods affected by environmental disruption. Since the 1980s, when the term “environmental refugees” was coined, experts within the environmental and migration fields have differed in their characterization of the phenomenon. Brown (2008) categorizes those concerned with the interconnections as falling into two groups – alarmists and sceptics. The alarmists see the environment as a principal cause of population movements, emphasize the forced nature of the migration (using the term “refugee”), and often project that hundreds of millions of persons will be affected, often without differentiating between those who will move short distances to safer ground and those who may move thousands of miles to new countries. The sceptics, by contrast, raise questions about the models used to generate estimates of those who would be forced to migrate and emphasize that pull factors in destination locations are often more important than push factors at home in determining whether, where and in what volume people will migrate. Perhaps not surprisingly, some environmentalists have been particularly alarmist, often using the threat of mass migration as a justification for immediate action to address climate change and other environmental problems. Migration experts, concerned about a potential backlash against migrants and misuse of such terms as “refugee”, which is carefully defined in international law, have tended to join the camp of the sceptics.

In more recent years, scholars and activists from the two communities have come together to develop the knowledge base needed to determine the causal mechanisms at work, as well as the potential numbers of people who might be affected. The potential for climate change to affect movements of people has led to a more scientific basis for estimating numbers. The following four paths have been identified as the primary ways in which climate change can affect migration: 1) intensification of natural disasters, such as hurricanes and cyclones that destroy housing and livelihoods and require people to relocate for shorter or longer periods; 2) increased warming and drought that affects agricultural production, reducing people’s livelihoods and access to clean water; 3) rising sea levels that render coastal areas uninhabitable; and 4) competition over natural resources, which may lead to conflict and, in turn, precipitate displacement. (See Raleigh et al., 2008; Renaud et al., 2007; Brown, 2008; Hugo, 2008; Kniveton et al., 2008.)

Recognizing such complexity, and the broader context in which the environment affects population movements, the International Organization for Migration (IOM) offered the following definition of environmental migrants: Environmental migrants are persons or groups of persons who, for compelling reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad (IOM, 2007).
Policymakers have been slow to identify potential responses to environmentally-induced migration that take these more complex models into account, partly due to uncertainties about the actual impacts of climate change on migration. However, even where there is a recognition that some form of migration related to environmental change is likely to occur, addressing these movements is hampered by the paucity of policy responses that are deemed appropriate for these forms of migration.

This paper briefly discusses the potential impact of climate change on migration patterns, examines the existing capacities to address these forms of movement and the areas where capacity-building is required, and makes recommendations for addressing climate change-induced migration.

**BACKGROUND TO THE PROBLEM**

Different policies and responses are needed at each stage of the environmentally-induced migration process. The first stage is pre-migration, when actions are taken to prevent, mitigate and help individuals adapt to environmental hazards. It is outside of the scope of this paper to explore the steps being taken by localities, nations and the international community to reverse current environmental problems and to avert future environmental shocks that may arise out of climate change. Nonetheless, addressing the underlying causes of environmentally-induced migration is the most critical need in managing the issues covered in this paper, and it will require considerable political will, time and resources to take the steps that are needed to protect the environment.

Adaptation and disaster risk reduction deal more specifically with migration. Adaptation refers to “adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities” (Parry, 2007:869). Similarly, disaster risk reduction involves “systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events” (UNISDR, 2009). Identifying vulnerabilities is essential in each case, since the “characteristics and circumstances of a community, system or asset … make it susceptible to the damaging effects of a hazard” (UNISDR, 2009). Adaptation and disaster risk reduction can involve steps to reduce the need for individuals to migrate to get out of harm’s way, or it can involve migration as an adaptation/risk reduction strategy that allows a community or household to cope with changes and, perhaps, reduce risk for others.

Migration is the second stage of the process. Migration can be planned or spontaneous, involving individuals and households or entire communities. It can be internal, with people moving shorter or longer distances to find new homes and livelihoods within their own countries, or it can be international, with people relocating to other countries. It can proceed as
an orderly movement of people from one location to another, or it can occur under emergency circumstances. It can be temporary, with most migrants expecting to return home when conditions permit, or it can be permanent, with most migrants unable or unwilling to return. Each of these forms of migration requires significantly different approaches and policy frameworks. Depending on the specific situation, environmental migrants may resemble labour migrants, seeking better livelihood opportunities in a new location, or they may resemble refugees and internally displaced persons who have fled situations that are beyond their individual control.

The third stage of the process involves return or settlement in another location. The decision as to whether return is possible involves a range of variables, including the extent to which the environmental causes – either direct or through other channels – is likely to persist. Policies in the receiving communities and countries, depending on whether the migration is internal or international, will also affect the likelihood of return or settlement in the new location. In addition to immigration policies, the policies affecting return and settlement include those relating to land use and property rights, social welfare, housing, employment and other frameworks that determine whether individuals, households and communities are able to find decent living conditions and pursue adequate livelihoods.

The final stage of the process involves (re)integration into the home or new location. The policy frameworks outlined above will be key determinants of integration, influencing the access of displaced populations to housing, livelihoods, safety and security. Integration is also affected by plans and programmes to mitigate future displacements due to environmental hazards, aimed at breaking the migration cycle by focusing on prevention, adaptation and risk reduction.

Most migration due to climate change is likely to be internal, with the affected populations seeking to find more habitable locations, with greater economic opportunities, within their own countries. A portion of such migration will undoubtedly be international, however. In the most extreme cases, particularly in the context of rising sea levels, the entire population of island nations may need to be relocated. In other cases, environmental migrants will follow already established labour migration patterns that are international in scope. In Mexico, for example, if climate change worsens drought conditions in states, such as Jalisco, that already have significant migration to the United States, additional migrating residents may choose to follow their compatriots north. Similarly, rising sea levels in Bangladesh may cause an increase in the already large numbers of people migrating to India. In other cases, new patterns of international migration may develop, particularly if climate change affects habitat and livelihoods over large areas, causing migrants to seek out new destinations.

Complicating the situation is the lack of sound analysis and data relating to the circumstances in which international migration may result from climate change. Most projections of climate change-induced migration focus on identifying habitat and livelihoods that will be adversely affected by environmental changes. Maps of changes that will result from various projections of
sea level rise or intensified drought provide useful tools for assessing how many people will be affected by these climatic changes and how many may be forced to leave their current homes. However, these maps do not provide a useful assessment of whether people will move short or long distances, internally or internationally, or of how these movements are likely to take place – spontaneously or as a result of planning, slowly or suddenly, voluntarily or as a result of being forced.

Without such basic information, developing an appropriate policy framework is exceedingly difficult. The next section discusses the frameworks already in place for managing international migration that may occur as a result of climate change.

**EXISTING POLICY FRAMEWORKS AND GAPS IN CAPACITIES**

The immigration policies of most destination countries are not conducive to receiving large numbers of environmental migrants, unless such migrants enter through already existing admission categories. Typically, destination countries admit persons to fill job openings or to reunify with family members. Employment-based admissions are usually based on the labour market needs of the receiving country, not the situation of the home country. Family admissions are usually restricted to persons with immediate relatives (spouses, children, parents and, sometimes, siblings) in the destination country.

Humanitarian admissions are generally limited to refugees and asylum-seekers – those who fit the definition in the UN Convention Relating to the Status of Refugees: persons with a well-founded fear of persecution on the basis of race, religion, nationality, membership in a particular social group or political opinion. Most environmental migrants are unlikely to meet the legal definition of a refugee, since they are forced to flee because of loss of livelihood or habitat and not because of persecutory policies.

Some countries have established special policies that permit individuals whose countries have experienced natural disasters or other severe upheavals to remain at least temporarily without fear of deportation. The United States, for example, enacted legislation in 1990 to provide temporary protected status to persons “in the United States who are temporarily unable to safely return to their home country because of ongoing armed conflict, an environmental disaster, or other extraordinary and temporary conditions”.¹ Environmental disaster may include “an earthquake, flood, drought, epidemic, or other environmental disaster in the state resulting in a substantial, but temporary, disruption of living conditions in the area affected”². In the case

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¹ See Immigration and Nationalities Act § 244(c).
² Ibid.
of environmental disasters, as compared to conflict, the country of origin must request designation of temporary protected status (TPS) for its nationals.

Importantly, TPS only applies to persons already in the United States at the time of the designation. It is not meant to be a mechanism to respond to an unfolding crisis in which people seek admission from outside of the country. It also only pertains to situations that are temporary in nature. If the environmental disaster has permanent consequences, a designation of temporary protected status is not available, even for those already in the United States, or it may be lifted. When the volcano erupted in Montserrat in 1997, TPS was granted to its citizens and was extended six times. In 2005, however, it was ended because “it is likely that the eruptions will continue for decades [and] the situation that led to Montserrat’s designation can no longer be considered “temporary” as required by Congress when it enacted the TPS statute.”

Another significant factor is that the designation is discretionary, to be made by the Secretary of Homeland Security. Countries or parts of countries are designated, allowing nationals only of those countries to apply. Currently, the designation is in effect for citizens of El Salvador, Honduras and Nicaragua. TPS was originally triggered by the earthquakes in El Salvador and Hurricane Mitch in Honduras and Nicaragua. It was extended until 9 September 2010 (for El Salvador) and until 5 July 2010 (for Honduras and Nicaragua). Notably, TPS was not triggered for the hurricanes that destroyed large parts of Haiti. Given the temporary nature of the grant and its application only to those already in the country, TPS has only limited utility in addressing environmentally-induced migration.

At the European Union level, the “Temporary Protection Directive establishes temporary protection during ‘mass influxes’ of certain displaced persons. The term ‘mass influx’ refers to situations where masses of people are suddenly displaced and where it is not feasible to treat applicants on an individual basis. It was decided that ‘mass influx’ was to be defined on a case-by-case basis by a qualified majority of the Council” (Kolmannskog, 2009).

Sweden and Finland have included environmental migrants within their immigration policies. Sweden includes within its asylum system persons who do not qualify for refugee status but need protection. Such a person in need of protection “has left his or her native country and does not wish to return there because he or she: has a fear of the death penalty or torture; is in need of protection as a result of war or other serious conflicts in the country; is unable to return to his or her native country because of an environmental disaster”. The decision is made on an individual, not group, basis. Although many of those granted this status are presumed to be in temporary need of protection, the Swedish rules foresee that some persons may be in need of permanent solutions. Similarly, in the Finnish Aliens Act, “aliens residing in the country are issued with a residence permit on the basis of a need for protection if [...] they cannot return because of an armed conflict or environmental disaster” (quoted in Kolmannskog, 2009).

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A number of countries provide exceptions to removal on an ad hoc basis for persons whose country of origin has experienced significant disruption because of natural disasters. After the 2004 tsunami, for example, Canada, Switzerland and the United Kingdom suspended deportations of those from countries and regions such as India, Indonesia, Maldives, Seychelles, Somalia, Sri Lanka and Thailand.

To date, there are no examples of legislation or policies that address migration resulting from slow-onset climate changes that may destroy habitats or livelihoods in the future. For the most part, movements due to slow-onset climate change and other environmental hazards that limit economic opportunities are treated in the same manner as migration that is economically motivated. Persons moving outside of existing labour and family migration categories are considered to be irregular migrants. In the absence of a strong humanitarian basis for exempting them from removal proceedings (which is unlikely in a slow-onset situation), these migrants would be subject to the regular systems in place for mandatory return to their home countries. As their immediate reasons for migrating would be similar to those of other irregular migrants – lack of economic opportunities at home and better economic opportunities abroad – there would be little reason for destination countries to manage these movements outside of their existing immigration rules.

Nonetheless, a number of source countries are expressing the concern that large numbers of their population may need to relocate internationally if the worst case scenarios of climate change come to pass. President Mohamed Nasheed announced at the end of 2008 that the Maldives was establishing a sovereign wealth fund that could be used to purchase a new island for the country’s population. According to Nasheed, “this trust fund will act as a national insurance policy to help pay for a new homeland, should future generations have to evacuate a country disappearing under the waves” (Russell, 2009). Hoping that the funds would never be used for this purpose, Nasheed used the announcement as a call for renewed action to reduce greenhouse gas emissions.

Anote Tong, President of Kiribati, has also made it clear that the population of his island might be forced to relocate en masse. His focus has been on identifying immigration possibilities for Kiribati nationals in nearby countries, particularly Australia and New Zealand. In a recent trip to New Zealand, he suggested that the best educated Kiribatis should emigrate first, in an orderly fashion, and then establish communities that others could join, when necessary.
In only a few cases has there been any serious discussion of new immigration policy frameworks for those displaced by climate change; however, even in this context, the focus has been on disaster-related, not slow-onset, movements. The Green Party in Australia launched an initiative in 2007 to establish a “climate change refugee visa” in immigration law, with the following three objectives:

1) to amend the Migration Act to incorporate a Climate Change Refugee Visa class;
2) to establish a programme for the migration of up to 300 climate change refugees per year from Tuvalu, 300 from Kiribati, and 300 from elsewhere in the Pacific, where appropriate;
3) to push the government to work through the United Nations and other international forums for the establishment of an international definition and framework on climate change and environmental refugees.4

The visa would be available to persons who had been displaced as a result of a “climate change induced environmental disaster,” which, in turn, was defined as:

... a disaster that results from both incremental and rapid ecological and climatic change and disruption, that includes sea level rise, coastal erosion, desertification, collapsing ecosystems, fresh water contamination, more frequent occurrence of extreme weather events such as cyclones, tornados, flooding and drought and that means inhabitants are unable to lead safe or sustainable lives in their immediate environment.5

A determination that a disaster exists would have to be made personally by the Minister of Immigration and Citizenship, using the following criteria: (a) the geographical scope of the disaster; (b) adaptation options and long-term sustainability; (c) the capability of the country and neighbouring countries to absorb displaced persons; and (d) international efforts to assist.

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The bill was defeated in 2007 but members of the Green Party intend to reintroduce it or a similar bill. The governing party has indicated that it sees the international displacement of environmental migrants as a last resort. When asked if Australia intended to resettle those likely to be affected by rising sea levels in the Pacific, Immigration Department Deputy Secretary Peter Hughes responded:

I think the general view that has emerged about climate change displacement is that, first and foremost, the activities of governments ought to be aimed at mitigation of the climate change factors that might displace people, adaptation within countries where that is possible and internal relocation could be part of that adaptation process and, lastly, as a last resort, if needed, international resettlement as a response (quoted in AdelaideNow, 2008).

New Zealand, under similar pressures regarding the potential need for resettlement of Pacific Islanders affected by rising sea levels, has also not established a specific category of admissions. The government has introduced a Pacific Access Category (PAC), whereby 75 people from Tuvalu, 75 from Kiribati, and 250 from Tonga may immigrate to New Zealand each year. The programme is based on employment, however, not environmental factors. The immigrants must be between 18 and 45 years old, have an offer of employment in New Zealand, have an acceptable level of spoken and written English, meet minimum income requirements, undergo a health check, and have no history of illegal entrance. The programme is not intended to provide access to those who may be most vulnerable to climate change-induced displacement, such as the elderly or the infirm.
CONCLUSIONS

Discussion of policies to manage environmental migration is in its infancy. With the growing understanding of the various ways that environmental change can affect migration patterns, and vice versa, governments are beginning to think through how to manage the implications of these interconnections. Much of the attention to date has focused on internal migration, largely in the context of adaptation strategies. Few potential destination countries have policies designed to explicitly manage climate change-induced migration. In most countries, affected populations could enter only if they met the requirements of existing immigration policies, which usually give preference to family reunification and employment-based admissions. With the exception of some discussions in Australia and New Zealand regarding admissions from the Pacific Island countries, no destination countries have considered establishing special labour admissions programmes for persons affected by loss of livelihood as a result of slow-onset climate change or other environmental hazards. While potential destination countries have asylum and/or resettlement systems to manage the admission of persons who cannot return home because of a well-founded fear of persecution, none have systems in place to manage the admission of persons who cannot remain or return home because of environmental threats. At best, destination countries have policies to defer deportation of those coming from countries experiencing natural disasters, but these are generally post-disaster and ad hoc in their implementation. In sum, no major destination country has a proactive policy designed to resettle persons adversely affected by environmental hazards.

Given the current gaps, more attention needs to be placed on identifying and testing new frameworks for managing potential movements, while addressing both sides of the environment–migration nexus: 1) identifying adaptation strategies that allow people to remain where they currently live and work; and 2) identifying resettlement strategies that protect people’s lives and livelihoods when they are unable to remain. Since internal migration is the most likely outcome for those affected by climate change and other environmental hazards, highest priority should be given to policies and programmes aimed at managing these issues within the most affected countries.

Nevertheless, some international migration may well be needed, particularly for the citizens of island nations, necessitating identification of appropriate admissions policies in potential destination countries. The primary focus here should be on identifying likely patterns of migration, with particular emphasis being placed on identifying who cannot be relocated within their home countries, either because of widespread habitat destruction (again, as in the case of certain island States) or because relocation would pose security risks that could provoke violence or even conflict. Attention should also be given to the slower-onset situations in which loss of livelihoods generates emigration pressures. In the absence of legal opportunities to immigrate, at least some portion of those who lose livelihoods as a result of climate change and other environmental hazards will likely become irregular migrants. The challenge in these cases
Involves determining whether these individuals should be given consideration over others who migrate in search of better opportunities. However, it is unlikely that many destination countries will answer this question in the affirmative. With the exception of their refugee and asylum policies, countries tend to frame their admissions policies around their own national interests, prioritizing the admission of persons who will contribute to economic growth, meet labour shortages or have close family ties in the destination country. While exceptions may be made for environmental migrants whose situation most resembles that of refugees, there is less likelihood that governments will make an exception for those who resemble economic migrants.

In moving towards more coherent frameworks, lessons learned in the past will be useful, particularly in the context of those countries that foresee the possibility that planned resettlement, including internationally, may be needed. More systematic examination of previous planned resettlement programmes – in the context of transmigration, villagization and development projects – would help ensure that climate change-induced resettlement programmes pre-empt the problems identified in these initiatives. Identifying the best examples of resettlement – such as programmes that respected the rights of the resettled and resulted in an improved economic and social situation – is as important as identifying the pitfalls experienced in programmes that failed. Guidelines promulgated to protect those who are involuntarily resettled due to development projects or who are displaced by natural disasters should be systematically examined to determine their applicability to the resettlement programmes proposed by countries fearing the worst consequences of climate change. Technical assistance and training for the ministries that may be responsible for resettlement are essential to ensure that all alternatives are exhausted before people are required to relocate, that affected populations are involved in the planning, and that all steps are taken to ensure appropriate preparation and implementation.
REFERENCES

AdelaideNow
(accessed on 13 August 2010)

Brown, O.  

Hugo, G.  

IOM  
(accessed on 13 August 2010)

Parry, M.L. et al.  
2007 Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Intergovernmental Panel on Climate Change (IPCC), Geneva.  
(accessed on 30 September 2010)

Kniveton, D. et al.  

Kolmannskog, V.  
Morton, A. et al.  

Raleigh, C. et al.  
2008 *Assessing the Impact of Climate Change on Migration and Conflict*. World Bank, Washington, DC.

Renaud, F. et al.  
2007 *Control, Adapt or Flee: How to Face Environmental Migration?* United Nations University, Bonn.

Russell, C.  

UNISDR  