Refugees, Climate Change, and Instability

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Human Security and Climate Change

An International Workshop
Holmen Fjord Hotel, Asker, near Oslo, 21–23 June 2005

Organizers:
Centre for the Study of Civil War, International Peace Research Institute, Oslo (PRIO) &
Centre for International Environmental and Climate Research at the University of Oslo (CICERO)
for the Global Environmental Change and Human Security Program (GECHS)

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Environmental pressures have shaped human migration and settlement patterns for millennia. However, two features make the current era unique in human history. First, the process of climate change in the modern period stems partly from human-induced changes in the environment. Industrialization and mass consumption have led to a dramatic increase in pollutants which have long-term consequences for the Earth. Secondly, nationalism and the compartmentalization of territory into exclusive political jurisdictions (i.e. states) places limits on human mobility as societies place a greater emphasis on who is to be included within the polity. Until the mid to late 19th Century, states had relatively few limitations on immigration and people could more or less move freely between countries. Moreover, internal migration from rural to urban areas was common and unimpeded—there has been an increasing effort in many countries to slow the rate of urban growth.

Recently, the implications of climate change for what is broadly termed 'human security' has caused alarm among policy makers and academics (Homer-Dixon 1991; Homer-Dixon 1994). Even the United States Pentagon has found the issue important enough to deserve attention as an emerging security threat (Schwartz 2003). This issue has entered into the public consciousness as well, although popular films depicting cataclysmic weather events no doubt hyperbolize the level of danger.

The empirical record is still inconclusive. Scholars have found conflicting evidence linking environmental pressures to conflict scenarios and there still is no consensus as to the implications of climate change or other such pressures for human

security (Diehl and Gleditsch 2001). For the most part, scholars have relied upon anecdotal case-studies which often suffer from omitted variables and over-determination—authors deliberately select cases that best fit their theory while ignoring other possible causes of the same phenomena. In one of the few published studies using systematic cross-national data, Hauge and Ellingsen (1998) find that environmental degradation has a small positive effect on conflict behavior within states. More importantly, however, scientific forecasts suggest that the most rapid and far-reaching changes will occur at some point in the future, and so we are left to speculate about what *might* come to pass.

The link between climate change and migration has also suffered from a lack of systematic evidence in support of sweeping claims. The term "environmental refugee" has itself created considerable controversy as to whether or not it is a meaningful concept (Bates 2002; Black 2001; Myers 1997). Some activists have been working towards changing the UN definition of 'refugee' to include those uprooted by environmental disasters, while others question whether the term 'refugee' should properly apply to these persons. Furthermore, because the motives for migration are often varied, it is difficult to know the root causes of population movements. Do people migrate in search of better employment opportunities or because of environmental damage at home? Are these causes in fact separable? For example, environmental pressures may lead to declining crop yields in poor areas, but it is difficult to know if migrants from such regions would have left in the absence environmental changes.

McLeman and Smit (2004) point to the 'dustbowl' migration in the Southwestern United States, drought-induced migrations in Africa, and hurricanes in the Carribean

basin as evidence of events which have induced mass migration. The argument that environmental stress can produce population dislocations is certainly persuasive and eminently plausible. However, the consequences of inward migration for receiving areas—either within the same state or in other states—is far from clear. Thus, this paper asks two related questions. First, what are the possible links between environment-induced migration and instability in migrant-receiving areas? Instability can take on a variety of forms, but I distinguish between short-term sporadic violence and long-term organized violence. Interpersonal conflict, assault, property damage, and even riots are generally unplanned and unorganized and do not endure for long periods. By contrast, organized violence such as rebellion or insurgency requires a good deal of forethought and resources, and often cause substantial damage to lives and property.

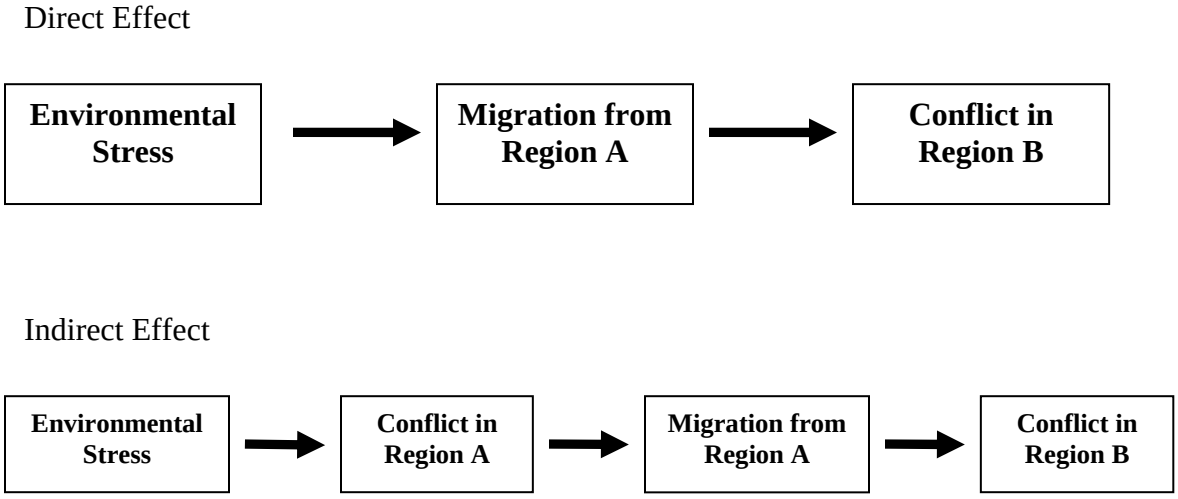
Secondly, are there significant differences in the characteristics of environmentally-induced migration, and do these have distinct implications for patterns of instability? I shall argue below that migrants who flee directly from environmental disasters are less likely to contribute to organized violence in their host areas than 'classic' refugees, who may flee from environmental conflicts in their home regions. While all migrants have the *potential* to lead to low-level hostilities, only refugees from armed conflicts—which include those conflicts rooted in environmental problems—are likely to have a significant impact on organized violence. I also argue that effective governance can mitigate the potential negative effects of environmental change. In addition, migration need not be harmful at all—in fact, the positive effects of immigration may be substantial—but, the governance of migration flows can mitigate potential problems.

At this point a few points of clarification are needed. To begin with, the arguments discussed below are not limited to migration across national boundaries as the terms 'immigrant' and 'refugee' may suggest. The same causal processes may work within countries just as they do across countries. In addition, this discussion is primarily speculative. There are few (if any) clear examples of cases where environmental stresses have led to mass migration, in turn leading to conflict and instability in receiving areas. However, there is some evidence for each link in the causal chain which provide at least tentative support for the hypotheses given. The discussion below is, therefore, primarily based upon predictions about future events. If scientific forecasts are correct, future climate change has the potential to be even more disruptive than current environmental problems. It is certainly plausible that environmental pressures stemming from events in the future will lead to mass population migration, and therefore, it is important to at least consider what possible scenarios may look like.

Alternative Pathways to Conflict

Figure 1 illustrates plausible causal pathways from environmental stress to migration to conflict in receiving areas. First, environmental problems may directly lead to emigration. Secondly, environmental stress may lead to resource conflicts, and these conflicts may produce refugees. Each type of migration may lead to conflict in receiving areas; however, they may not be equal in their effects, as will be discussed below.

Figure 1: Direct and Indirect Pathways from Environmental Stress to Conflict



First, global climate change has the potential to directly uproot people from their home communities. Research on this topic (see UNEP 2003 for an overview) suggests several possible mechanisms through which people may be forced out of their current habitat:

- Sea-level rise caused by a reduction in glacial coverage will lead to the flooding of coastal areas. Low-lying, coastal regions will be evacuated as water encroaches upon human habitats.
- Desertification will cause people to migrate out of unproductive and water-scarce areas.
- Greater variability in weather patterns will lead to dramatic climate events such as hurricanes, typhoons, and extreme cold which will disrupt human settlements.

- Unpredictable rainfall will lead to periods of flooding and drought, making certain areas uninhabitable.

Examples of where these types of environmental stresses have occurred are frequently mentioned by authors (see e.g. Homer-Dixon 1994; Myers 1997). Drought migration in East Africa, hurricanes in the Caribbean region, and flooding in Bangladesh have been cited as cases where people have left uninhabitable regions. Such processes are expected to intensify in the future as the process of global environmental change progresses further.

Secondly, environmental stresses may lead to migration indirectly. Resource scarcity and competition can lead to conflict within a country or region, and this conflict may lead to greater emigration. Grievance models of conflict (see e.g. Gurr 1970) argue that people will fight if they see a decline in their living conditions, particularly in relation to others. For example, people working in agriculture may be more affected by drought or floods than people in urban areas, leading to greater income inequality within societies. Furthermore, if certain ethnic groups are concentrated in particular regions and these regions are adversely affected by climate change, ethnic groups may demand compensation or redress to counter growing inequalities. Ethnic divisions need not be conflictual, but when they coupled with income inequality between ethnic groups, violence is more likely (Horowitz 1985). Finally, the scarcity of resources such as water, farmland, and timber may lead to Malthusian conflict between people competing over the same limited supply goods.

Although it is difficult to know for certain what will occur in the future, there is some evidence to suggest that environmental problems have led to conflict before. Hauge and Ellingsen (1998) have found a positive link between environmental degradation and violence; while they suggest that this effect is quite small, future climate change may make environmental stress a more substantively significant predictor of violence.

While a sense of relative deprivation or grievance may be necessary for conflict to emerge, many have argued that grievances are not sufficient for violence to erupt; groups must also be able to overcome collective action problems in the face of government repression if they are to successfully mobilize an armed insurrection (Lichbach 1995; Tilly 1978). Individual rationality suggests that people should be unwilling to bear significant costs, including the risk of death, in achieving the group's collective aims (such as income redistribution) when these goals are non-excludable (Olson 1965). People would rather free-ride on the efforts of others to provide group benefits.

In addition, repression and the availability of non-violent alternatives are important. While extremely repressive regimes can deter dissent, democratic states are also less likely to experience internal conflict because they are more responsive to non-violent demands (Hegre et al. 2001). However, it is likely that governments lacking the capacity to adapt to environmental change will also lack the power to successfully deter aggrieved groups from engaging in violence. Government capacity is likely to be an important determinant of the ability for societies to successfully adapt to changing environmental conditions, and this capacity will co-vary with the ability to deter armed challengers. Furthermore, undemocratic regimes are less likely to respond to the needs of ordinary citizens suffering from adverse environmental conditions. Therefore, problems

of environmental degradation, poor adaptive capacity, unresponsive governments, and weak policing mechanisms usually coincide with one another and compound conflict patterns.

The link between conflict and emigration is quite obvious. Domestic conflicts are a major cause of refugee flows. A large body of statistical research suggests a link between civil conflict and refugee migration (Davenport, Moore, and Poe 2003; Moore and Shellman 2004; Schmeidl 1997), although most of these conflicts do not have direct roots in environmental problems. Sometimes, these flows can be substantial. For example, Mozambique, Afghanistan, and Israel/Palestine have each generated millions of refugees. For receiving areas, the sudden influx of large numbers of people can be especially burdensome and as Table 1 demonstrates, the size of some refugee communities relative to the host society can be large. Armed conflicts can also lead to a large number of internally displaced people, and these numbers often exceed those who flee across international borders. Thus, environmental stress can lead to migration itself, or it can lead to refugee-producing civil unrest.

Table 1. Ratio of Refugees to Host-Country Populations, 2001

Host Country	Ratio of Refugee Population to Total Population	Number of Refugees
Jordan	1:3	1,643,900
Lebanon	1:11	389,500
Iran	1:26	2,558,000
Djibouti	1:27	22,000
Yugoslavia	1:27	400,000
Congo-Brazzaville	1:30	102,000
Zambia	1:36	270,000
Guinea	1:40	190,000
Liberia	1:53	60,000
Pakistan	1:72	2,018,000
Tanzania	1:73	498,000
Sudan	1:104	307,000

Source: United States Committee for Refugees, 2002 Yearbook

Turning to the effects of migration on conflict patterns in host societies, several authors have suggested that internal as well as international migration can lead to tensions in receiving areas (Fearon 2004; Loescher 1993; Weiner 1978; Weiner 1992-1993). Migration need not have adverse effects, however. Immigrants can add economic skills and cultural vibrancy to their receiving areas, which are welcome; the local reception of immigrants will be important in determining their impact. Nevertheless, at times conflicts have arisen from migration inflows. Salehyan and Gleditsch (2004) present quantitative evidence linking international refugee migration to civil conflict in receiving states. There are several explanations as to why migrant-receiving areas may be prone to conflict. First, economic and resource competition between migrants and natives may lead to friction (Martin 2005). Migrants are often used as scapegoats for real or perceived deterioration of economic conditions in receiving areas; competition over

land, housing, water, employment, and social services can boil over into overt hostility. Secondly, migration may lead to disruptions in the ethnic balance of receiving areas, leading to xenophobia and clashes between ethnic groups. "Sons of the soil" conflicts (Fearon 2004; Weiner 1978), prevalent in many parts of the world, involve migrants moving into and displacing people indigenous to an ethnic homeland. Fearon (2004) suggests that these types of conflict are often the most difficult to resolve. Finally, migrants from civil war may directly pose a threat to receiving areas if they are involved with rebel factions in their home countries. Such migrants lead to a spread in arms, ideologies, and organizational structures conducive to violence.

Across Europe for example, tensions between migrants and locals has at times boiled over into violence. The murder of filmmaker Theo Van Gogh by militant Islamist migrants and subsequent reprisals in the Netherlands have highlighted the potential for interethnic violence. In the British cities of Bradford, Oldham, and Burnley racial tensions erupted into widespread riots in the summer of 2001. In the United States, anger over alleged uncontrolled Mexican migration and the loss of jobs has led private vigilantes, known as the Minutemen, to patrol the southern border. Internal migration has also led to ethnic tensions in the North East regions of India as well as in non-Javanese regions of Indonesia, to name a few examples.

In more extreme cases, migration has led to civil war in receiving areas. For example, civil wars in Jordan and Lebanon have involved Palestinian migrants; in the Democratic Republic of Congo, Hutu refugees from Rwanda contributed to local conflicts; and in Macedonia, refugees from Kosovo led to a minor armed conflict. In these cases, refugees from neighboring civil wars threatened the security of the receiving

state by engaging in acts of cross-border violence against their home state, or they linked up with domestic factions with similar political goals.

Table 1. Refugees and Conflict Onset.

		Conflict Onset		
		No	Yes	Total
Refugees from Neighbor	No	4826 (97%)	156 (3%)	4,982
	Yes	1101 (90%)	127 (10%)	1,228
	Total	5,927	283	6,210

Table 1 shows a simple bivariate relationship between conflict onsets and the presence of refugees from neighboring countries. Each country/year from 1951 to 2001 is a separate unit of analysis, yielding over 6,000 observations. While the modal value for both the refugee hosts and non-hosts was no conflict, 10% of the refugee hosts experienced a conflict onset while only 3% of the non-hosts did so.[1] This suggests that while migration usually *does not* lead to violence (a point discussed later), it does *increase the risk* of violence in receiving areas. However, further research into the implications of internal migration and non-refugee international migration for conflict processes must be conducted to draw further conclusions about conflict processes outside of the refugee arena.

Migration Motives and the Risk of Conflict

Violent conflict between migrants and locals may take a variety of forms. One important distinction between modes of violent interaction is whether conflict is unorganized and

[1] This finding is statistically significant at the .001 level. Conflict data comes from the Uppsala/PRIO Armed Conflicts Dataset. Refugee data comes from the United Nations High Commissioner for Refugees. Salehyan and Gleditsch (2004) include additional controls for conflict in neighbor, ethnic kin in neighbors, and domestic political and economic conditions. Even with the inclusion of these controls, refugees are shown to have a statistically significant impact on the probability of violence.

sporadic or organized and sustained. Interpersonal violence such as assault, property damage, and murder, along with mass violence such as riots are generally not long-term sustained campaigns, but rather, are relatively limited in scope. By contrast, rebellions and full-blown civil wars involve long-term organization and substantial resources. Both forms of violence are certainly disruptive, but organized rebellion has a much more deleterious impact on economic and social conditions. While migration has the potential to provoke violent reactions, there are likely to be important differences between conflict patterns stemming from 'environmental' versus 'classic' refugees.

Those migrants fleeing directly from natural disasters such as flooding, hurricanes, and desertification are not likely to contribute to organized violence, although sporadic violence may arise. Many of the environmental stresses relating to climate change are gradual in nature and will lead to small, though sustained migration streams. Desertification and sea-level rise, for instance, are processes that will develop over several decades, if not centuries, and are not likely to provoke massive emigration over the short-term. Receiving areas can adapt to gradual migration, and although there may still be tensions between locals and outsiders, these tensions are not likely to lead to organized violence. Even massive emigration sparked by environmental disasters have not led to widespread, sustained fighting. Hurricane Mitch and the Asian Tsunami (which was caused by geological, not meteorological phenomena) each led to the displacement of many thousands of people, and receiving areas have not experienced organized violence. This is not to say that situational or sporadic violence may not erupt—such migrants still enter the labor force, compete over scarce resources, and change the ethnic composition of receiving areas.

Purely environmental migrants do not have political agendas in their home region and they do not necessarily regard themselves as victims of persecution deserving justice. In contrast, 'classic' refugees—those who flee conflict zones—do make political demands and have a stake in the outcome of conflicts in their homelands. If environmental degradation leads to civil wars, *and these wars* lead to emigration, such refugees have a greater propensity to provoke conflict in receiving areas. We may infer these outcomes from current examples. Across Europe and North America, hundreds of thousands of economic migrants gain access each year. Although racist attacks, ethnic riots, and murders do occur, such incidents have generally been short-lived and without large-scale organization. Anti-immigrant parties with greater levels of organization have emerged and have at times mounted successful political campaigns, but these actors generally make anti-immigrant policy prescriptions and do not resort to violence. Economic migrants have also caused strains in other immigrant receiving countries such as Saudi Arabia (South-East Asians), South Africa (other Africans), Indonesia and Malaysia (Chinese), and Costa Rica (Nicaraguans), but these migrant streams have not generated mass violence.

Refugee communities have, however, led to conflict in receiving areas. These migrants have a direct stake in the outcome of fighting in their home country, especially the ex post distribution of resources. Many refugees also have a direct experience of victimization or persecution and therefore demand the removal of the regime in power, or at least significant political concessions. Furthermore, during periods of civil conflict, the hyper-politicized political environment encourages refugee mobilization for one side or the other. Thus, Tamil refugees in India, Afghan refugees in Pakistan, Zimbabwean

refugees in Mozambique and Zambia, to name but a few examples, maintained ties with combatant factions in their countries of origin (Lischer 2005; Zolberg, Suhrke, and Aguayo 1989). These refugees are often recruited directly into combatant factions and are often relied upon for material support. Thus, along with migrants themselves, receiving areas often 'import' arms, organizational structures, resources, and ideologies conducive to violence.

Refugees from conflict zones frequently engage in cross-border attacks against their home government, and pursuit by state forces jeopardizes national security and the safety of local populations. Furthermore, refugee flows can threaten relations between sending and receiving countries. Receiving countries are accused of harboring militants and sending countries are blamed for imposing a refugee burden on their neighbors. Furthermore, cross border fighting between refugee communities and sending states has the potential to drag the receiving country into the war. Israel invaded Lebanon in pursuit of Palestinian rebels among refugee communities; similarly, Uganda and Rwanda invaded the Congo after armed opposition groups emerged in refugee encampments. Thus, 'classic' refugees imply greater security risks for receiving areas than purely environmental migrants. For those internally displaced by fighting, migration within a country can lead to the spread of the conflict to new areas.

Governance of Environmental Problems

Several authors have suggested that proper governance can mitigate the effects of climate change on human communities (Barnett 2003; Homer-Dixon 1991). To begin with, good environmental stewardship to reduce the level of pollutants released into the environment

may potentially slow down the rate of climate change. Nevertheless, it is also the case that climatic shifts occur despite human activity and a certain degree of change is inevitable.

Therefore, at the local, national, and international levels, policies to reduce the harmful effects of climate change are required. Improving the adaptive capacity to ward-off environmental disasters and reduce the adverse effects of climate change will therefore be important. At the local and national levels, governments can provide a number of meaningful solutions including:

- Encourage people to move out of flood planes and assist with relocation costs.
- Foster more efficient irrigation and water consumption.
- Improve shelters to prevent damage during severe weather events.
- Improve disaster preparedness and response strategies.

However, as was mentioned above, the poorest governments often have the least capacity to engage in these types of efforts. Current natural disasters certainly affect developed countries, but floods, typhoons, earthquakes, and other calamities cause severe destruction of life and property in the developing world. Thus, poverty and environmental stresses interact to create severe outcomes not experienced in areas with better resources for crisis management. Therefore, the assistance of wealthy donor states will be necessary to improve local adaptive capacity and to facilitate the training of local service providers in developing countries. Doing so is not merely an altruistic endeavor. Because environmental disasters in developing countries may lead to greater migration, providing generous assistance programs will serve to limit emigration at its source and is

likely to be more efficient than reactive (and often unsuccessful) border/immigration enforcement initiatives. European and North American publics, weary of the rise in asylum-seekers would do better to prevent the initial causes of flight, rather than react to migrants at their doorstep.

Governance of Migration Risks

In addition to governing environmental problems, the governance of migration flows when they occur will be vital in preventing the adverse consequences of population dislocations (Martin 2005). It is important to note that migrants need not be a security risk at all. At best, immigration provides receiving areas with economic skills, cultural richness, and a greater cosmopolitan awareness. Table 1 shows that even in the case of refugees from violence—which have the greatest potential to cause instability—only about 10% of such flows have lead to organized armed conflict in their receiving countries. Many migrant communities in the United States, Europe, Australia, and elsewhere co-exist peacefully among local populations and have made important contributions to their host communities.

Yet, mass migration in a disorderly manner can be a security risk if care is not taken. Beginning with refugee from violence, host areas can take a number of positive steps to prevent violent disruptions:

- Locate refugees away from conflict zones, particularly border regions.
- Prevent the infiltration of arms and combatants into civilian refugee communities and encampments.

- Provide meaningful alternatives to violence to refugees by allowing productive employment.
- Foster dialogue with local communities to address the economic and social concerns of receiving areas.

Again, assistance from donor states and agencies such as the UN High Commissioner for Refugees will be important for developing countries who lack the capacity to adequately govern refugee communities. In the case of Malawi for example, the government worked with INGO's and NGO's to provide over 1million Mozambican refugees with their basic needs, prevent armed factions from working within camps, and to design programs to encourage self-sufficiency and employment in ways that were non-threatening to locals.

In dealing with environmental migrants (rather than 'classic' refugees), receiving areas can also engage in a number of additional positive measures to prevent hostilities from arising. Cases where violence has emerged have generally stemmed from a lack of cultural awareness and sensitivity by both locals and immigrants, as well as barriers to the full incorporation of migrants in their receiving areas. Steps to address these problems include:

- Prevent discrimination against immigrants in the workplace, access to government services, and social activities.
- Revise citizenship laws to allow immigrants (and/or their children) to naturalize and become full participants in the political life of the community.
- Promote tolerance and respect for diversity through public education programs.
- Facilitate language acquisition and civic awareness among immigrant communities.

Violent incidents involving migrants (both as perpetrators and as victims) have elicited considerable attention in the North American and European media, but it must be remembered that immigrants and locals frequently co-exist side by side in relative peace. Violence is the exception and not the norm. However, conflict is certainly possible if receiving areas do not take proactive steps to reduce tensions and engender positive ethnic relations.

Conclusion

This paper has examined a number of pathways through which environmental stresses may lead to migration, which in turn may lead to conflict in receiving areas. Global warming has the potential to significantly change how—and where—people live in the future. Although migration need not have negative effects, conflict is indeed possible. However, not all migrants are created alike. Those migrant who flee from environmental problems directly are generally not politicized and are unlikely to spark mass organized violence. They may still provoke inter-ethnic tensions, however. Refugees from environmentally-induced civil wars have a much higher likelihood of contributing to organized violence.

Importantly, governance at the domestic and international levels can mitigate the adverse effects of environmental change and population migration. Therefore, the relationship between the environment and conflict is not a deterministic one and will depend critically on steps taken now to prevent disasters in the future.

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