

Security and Natural Disasters

by
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Few events leave people feeling more helpless and insecure than the onset of a natural disaster. As the visibility of disruption precipitated by such calamities has escalated in recent years, they have been the subject of more concerted attention from both affected countries and international relief organizations. While most analyses of these catastrophes have focused on how to improve humanitarian relief efforts, how to deal with psychological and sociological trauma to human communities, and how to prepare better for such emergencies, they have largely ignored the impact on the domestic and international political security of the area. This study attempts to begin to remedy that deficiency by investigating the security payoffs from natural disasters.

While the overall global frequency of cataclysmic natural disasters has remained relatively stable over the centuries, several emerging trends surrounding these events make a fresh analysis of their security implications particularly urgent. For a variety of reasons to be examined later, the toll of human death and property damage has dramatically increased,¹ far outstripping the coping capacities of the local, national, and even global assistance efforts. During the 1990s, ironically designated by the United Nations as the International Decade for Natural Disaster Prevention, we have witnessed the “most costly spate of storms, floods, and fires in history.”² The costs of natural disasters to the global economy have been exceeding \$50,000 million per year, killing an average of 140,000 people most of whom reside in the Third World.³ Nonetheless, catastrophic deaths are fewer than might occur otherwise because of widespread improvements in warning, evacuation, and disaster prevention.⁴ But despite these major technological advances, most analysts agree that a larger number of people feel far more vulnerable than ever before to the consequences of natural hazards, due at least in part to increased global exposure to any major calamity anywhere in the world. The pattern of disaster relief has become haphazard and fleeting, as such aid “is highly variable and follows no logic of need and cost-effectiveness,”⁵ and non-governmental organizations have assumed a far more pivotal role than ever in the past. Perhaps most importantly from a security perspective, the military has been playing an ever more central role in government disaster relief efforts.

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THEORETICAL CONTEXT

Natural disasters in many ways serve as lightning rods for national and international security problems, highlighting characteristics of both donors and recipients of disaster relief, and may indeed elicit taking a fresh look at the definition of security itself.⁶ Looking first at the recipients, disasters can provide a measure of the preparedness and integrity of the affected society, showing both the adherence by the people to sound building and land use codes and the avoidance by the government of corruption and ineptitude. Second, disasters can reveal the extent to which victim countries realistically recognize their capacities and limitations to cope with the crisis. In particular, governmental responses to natural disasters may be one of the few ways available for assessing the extent of first, these regimes' desperation (or possibly humility), measured by their willingness or unwillingness to sacrifice national pride and hubris and accept offers of outside help occur; second, their autonomy, measured by their ability or inability to rely on their own resources to manage a resulting crisis; third, their technological faith, measured by their attempts during and after a catastrophe to seek technological remedies insulating them from the violent forces of nature; and fourth, their resiliency, measured by the speed of readjustment and rebuilding after a calamity.

Turning to the donors, disasters first may provide clues to governments' internationalist commitment to burden-sharing – and possibly even their underlying altruism and compassion – illuminating the willingness of aid providers both to expend resources on others' problems without any guarantees of tangible returns on their investment as well as to overlook past antagonisms and rivalries with affected populations. Second, disasters may serve as a yardstick of the speed and effectiveness of responsiveness to external foreign policy predicaments, highlighting donors' capacity to employ their security forces in the management of complex humanitarian emergencies overseas. In the broadest sense, natural disasters can help to reveal the actual scope and meaning of any country's global or regional security doctrine.

This important disaster-security linkage is embedded in a wide and varied theoretical context:

disasters, as few other research subjects, throw both theoretical and practical issues into high relief; the first, by their tendency to lay bare the essential features and processes of social and cultural organization and, second, by the urgency of the needs of those threatened or stricken by disasters for effective prevention, protection, relief, or reconstruction.⁷

While links exist to globalization, legitimacy, regime transformation, and perceptual trust/distrust, the most important theoretical perspectives appear to be first, those pertaining to geopolitics and ecopolitics, giving a context for analyzing the relationship of disruptions in the physical world to security concerns; and

second, those pertaining to post-Cold War security transformation and management of complex humanitarian emergencies, providing a context for evaluating how human responses to these disruptions link up with broader security priorities.

Geopolitics, in part through its useful distinction between determinism and possibilism,⁸ emphasizes that, while modern society preaches that humans are masters of the physical world with virtually unlimited potentiality based on human ingenuity, in reality topography and natural resources are crucial determinants of the success or failure of human activity. Geopolitical literature is still the best at showing how and when a country's natural assets and liabilities, including their volatility and vulnerability to disruption, help to shape its potential national power. From an ecopolitics vantage point,⁹ natural disasters provide in many ways the most meaningful gauge of how our management of the natural environment affects our vulnerability and resiliency to natural calamities. With geopolitics in some ways establishing a "floor" demonstrating how the presence of natural assets can insulate a state from the effects of disaster or increase its resiliency to them, ecopolitics in some sense sets a "ceiling" indicating limits on these advantages and how human activity can make natural disruptions a lot more deadly. Both geopolitical and ecopolitical perspectives emphasize that natural disasters demonstrate that at some macro-level nature is still in control.

Studies of the changing post-Cold War security system emphasize its far greater fluidity and unpredictability in responding to challenges requiring joint action than in the Cold War bipolar world.¹⁰ These perspectives highlight both the structural determinants present in international anarchy that prevent the emergence of sustained and coherent responses to disaster, and the tensions created between broad humanitarian impulses and narrow and self-interested foreign policy considerations affecting the pattern of international disaster management. The literature on managing complex humanitarian emergencies shows how natural disasters test both the coherence of policy about where to intervene and the mettle of rapid deployment systems to respond quickly and effectively to an unorthodox kind of unforeseen and highly dangerous threat.¹¹ This relatively new line of analysis is particularly effective in identifying both the positive and negative ramifications of using traditional military forces to provide aid to resolve these natural catastrophes and the linkages between such calamities with conflict management and the reconstruction of failed states. So while the security transformation literature emphasizes the broad impediments to globally coordinated and appropriate responses to disasters, the complex emergency literature concentrates on the narrower kinds of opportunities and dangers that emerge once action is taken. Both perspectives indicate that timely and effective international management of natural disasters would be exceedingly difficult in the current context.

Together these theories provide a roadmap for pursuing the analysis of the security impact of natural disasters. This study explores first, the diversity of natural disasters themselves, clarifying the trigger for security disruption; the differential patterns of human vulnerability to these disasters, clarifying the insecurity resulting from the catastrophe; the trends in disaster relief to assist those affected, clarifying the domestic and international security management responses to the calamity; and finally, and most importantly, the consequent overall security impact, clarifying the changes in internal and external security resulting from these management responses.

TYPE OF DISASTERS

This study focuses on a particular kind of natural calamity. In terms of the sort of events considered, the emphasis is on major recent acute disasters, characterized by sudden onset and short duration, where nature plays a prominent triggering role and where the potential for disruption seems highest. Natural disasters pose some of the most intractable security problems because they are at least as destabilizing as manmade political, economic, ethnic, or religious conflicts and kill more people on average than civil strife,¹² and they present more challenges for remedial action due to the difficulty of isolating human culprits. Skeptics need only compare the staggering tangible devastation (in human lives and property) from natural disasters since the end of the Cold War to the loss of property and life due to domestic and international violent clashes during the same time period; the comparative figures are not even close.

While there is little doubt that the distinction between natural and man-made disasters is artificial, due to the amplification of natural hazard disruption resulting from environmentally insensitive human behavior, the differences in attitudes and responses seem crucial when a calamity is seen as exclusively the product of human action. The reason for excluding chronic natural forces lasting months or more with gradual incremental rather than immediate massive impacts, such as drought, is that these tend to trigger less of a crisis atmosphere potentially resulting in dramatic changes in internal and external security; for this reason, the literature on environmental and resource conflict¹³ is largely irrelevant here despite natural disasters' stimulation of tension-escalating scarcity. Choosing to analyze recent disasters is due to a desire to see the particular dynamics in the post-Cold War context. While there is no precise standardized uniformly accepted definition of what constitutes a major disaster, the most common yardsticks¹⁴ involve large (often over \$1,000,000) amounts of property damage or large (often over 100) numbers of people killed, injured, or displaced, and these criteria serve well for this analysis. In the end, however, it should be clear that the type of events selected represents the most extreme cases, not typical manifestations of everyday disruptions due to the violent forces of nature.

More specifically, this study encompasses four major categories of natural disasters: floods, severe windstorms (called hurricanes, cyclones, or typhoons in different parts of the world), earthquakes, and volcanoes. Although many humans perceive them as freak once-in-a-lifetime occurrences, in reality they occur on a regular basis, quite frequently in some especially vulnerable countries.¹⁵ Floods, resulting from an increase in rainfall or snow melt or a decrease in the river system capacity to absorb or channel water safely, tend to disrupt the lives of more people than the rest, not just through drowning and direct injury but also through associated diseases and famine.¹⁶ Severe windstorms, triggered by sharp differences in atmospheric pressure, hit especially hard at human settlements in low-lying coastal areas in tropical and subtropical countries, carrying with them the energy equivalent of Hiroshima-sized atomic bombs and wreaking havoc through wave action and flooding as well as through the force of the wind itself.¹⁷ Earthquakes, which are the consequence of movements in the earth's crust causing tremors, liquefaction, and ground rupture, cause most of their deaths through building failures.¹⁸ Volcanoes, the final culmination of the eruption of molten rock or lava, ash, and gases due to pressure from the earth's core, generally cause the smallest amount of human injury and death but continuously tempt people back into danger because of the highly fertile soil surrounding them.¹⁹

HUMAN VULNERABILITY TO DISASTER

For some observers, examining closely the issue of human vulnerability to natural disaster appears to be superfluous, as they assume such vulnerability is a constant, impossible to alter, or simply a function of the magnitude of a disaster itself. Quite to the contrary, closer scrutiny calls into question this assumption of uniform vulnerability, especially when it is defined as involving not only location in a geophysically or meteorologically hazardous area but also risk amplification, mitigation, and perception components among the susceptible population.²⁰ It is evident across time that "disasters of equal force often produce unequal consequences" due to the nature of the affected area's physical infrastructure, the population's attitudes and practices, the region's medical capabilities, and the effectiveness of indigenous disaster warning, management, and relief.²¹

Some key underlying causes of vulnerability are population growth, urbanization, economic pressures, and land degradation.²² All four compound each other, as increased population causes poor individuals to move to less safe areas and to live in more densely packed situations where immunity to natural calamity is extremely low. The poorest of the poor live in the most disaster-prone areas.²³ Rapid change, such as a sudden economic downturn, can combine with natural disasters to accentuate or create the kind of mass vulnerability that triggers humanitarian emergencies.²⁴ While awareness and preparedness are important, having the resources to change a vulnerable predicament is absolutely cru-

cial. It is painfully evident that human action has often exacerbated the consequences of natural disasters. Recently, “a deadly mix of population growth, environmental abuses and warfare has yielded what relief experts call a three-decade-long ‘disaster boom,’” with international aid groups rushing to disasters almost weekly.²⁵ Inadvertently people may be “changing their environment to make it more prone to some disasters, and are behaving so as to make themselves more vulnerable to these hazards,” exhibited through both growing Third World over-cultivation and deforestation of flood-vulnerable land and overly-dense habitation on steep hills in earthquake-vulnerable cities; and intensifying advanced industrial society economic growth and over-reliance on fragile modern technology.²⁶

Different types of vulnerability emerge in developed and developing areas. Developing nations are far less prepared to deal with these calamities,²⁷ having far fewer resources to cope with them once they occur, and thus the numbers killed is often quite large. Historical experiences with the external control present in colonialism have made many of these societies fatalistic with regard to their expectations surrounding natural disasters. There are now several disaster crisis areas in the developing world “that are so vulnerable they are in a virtually permanent state of emergency.”²⁸ In contrast, despite having more resources that offer a kind of cushion against disaster, the massive structures located in the richest countries in the world make them extremely vulnerable to costly property damage,²⁹ if not as much to loss of life. Indeed, the Office of Technology Assessment notes that, after a natural disaster, in the Third World a house can be rebuilt with local labor and materials in just two days, while in the United States it would be barely possible to obtain a building permit in that time.³⁰

GOVERNMENT-SPONSORED DISASTER RELIEF

Governmental responses to natural disasters, undertaken by both domestic regimes in affected countries and foreign regimes providing bilateral assistance, are the focus of this study at least in part because they constitute the source (other than of course local citizen-initiated relief efforts) that even many intergovernmental and non-governmental organizations acknowledge is clearly the largest and most stable in the long run. Until the 1920s, disaster relief was strictly a bilateral government-to-government affair; then the Red Cross and a number of semi-public citizen groups began to provide greater assistance, and after World War II national governments assumed a larger relief role than before as bilateral aid programs aimed at economic development began to include substantial allotments for disaster management.³¹ During the 1990s, disaster aid rose as development assistance declined, even though most recently there has been a slight decline in donor funding for emergency relief.³² As changing legal norms have relaxed the principle of noninterference in the internal affairs of sovereign nations, and as changing political expectations linked to the spread of democracy have universalized concern for human suffering and deprivation, pressures for

governmental foreign intervention in humanitarian emergencies has increased.³³ The countries with government ministries that have formed special bureaus to deal with disaster aid include Great Britain, France, Sweden, Australia, New Zealand, Canada, and the United States.³⁴ The major forms of disaster relief are relief and rehabilitation, insurance, land-use changes and relocation, attempting through technical means to modify the severity of the disaster itself, and preventive measures such as retaining walls, improvements in building design, and early warning systems.³⁵ It is important to remember, however, that despite international relief efforts, after natural disasters “the local people still do most of their own ‘relieving’ and reconstructing” as they have done for centuries before the advent of foreign aid.³⁶

As one would expect, government-sponsored foreign disaster relief has had more than its share of problems. Often coordination with local authorities in a post-disaster situation is difficult if not impossible, as there frequently can be “paralysis of host-nation governance and the collapse of state institutions” during the chaos.³⁷ Even when such governments are intact and functional, they may be insensitive to the needs of the victims within their own borders.³⁸ Furthermore, affected “governments may be too proud to admit that they are unable effectively to feed their populations; they might reckon that desperately needed tourist receipts – not to mention receipts from agricultural exports – would vanish” if the seriousness of a catastrophe were known.³⁹ Thus national governments in disaster areas may suppress or distort information about the scope and severity of the disaster.⁴⁰

Outside intervention to help with a disaster “often does not understand the role played by coping mechanisms in a culture,” as foreigners “are not familiar with a society and how it works.”⁴¹ Victims may not use the disaster aid provided and may have no idea how to use productively goods received; recipient communities may have little to say about the quantity and quality of the relief they receive.⁴² Examples of inappropriate and often counterproductive disaster aid include a British charity sending packs of tea, tissues, and Tampax to a disaster area; the European Community sending powdered milk to an earthquake area where few cows had perished but there was no water; a humanitarian group sending chicken cooked in pork fat to non-pig-eating Moslem disaster victims; and a West German charity constructing 1,000 polystyrene igloos which proved too hot to live in and (since they could not be dismantled or moved) had to be burned down, giving off toxic fumes.⁴³ Disaster aid may be extremely transient, arriving suddenly in huge quantities and then ceasing, leaving affected communities in a difficult adjustment dilemma.⁴⁴ Because of the urgent needs immediately following natural catastrophes, the emphasis rather naturally has been on immediate Band-Aid solutions rather than on underlying structural deficiencies, with short-term emergency needs taking precedence over important long-term priorities.⁴⁵ At the same time, “deficiencies in infrastructure (for example, in sanitation and water supplies) may falsely be attributed to the disaster,” leading

to an overstatement of needs created strictly by the catastrophe.⁴⁶ It is, of course, always possible that disaster aid will “reward the gambler and penalize the prudent,” as such relief “may actually encourage people to build or rebuild unsafe structures or structures in unsafe areas.”⁴⁷

In considering when disaster relief assistance is granted or withheld, a number of influences play a critical role. These include the magnitude of the disaster, the media coverage, the perceived helplessness of the victims, and the willingness of those affected to accept outside help. It is a cynical truth that “disasters that kill a few quickly get much more ‘relief’ than disasters that grind people down slowly.”⁴⁸ Among the types of natural disasters, aid to earthquake victims tends to be especially enthusiastic.⁴⁹ It is widely accepted that “media coverage of disasters profoundly affects both public opinion and public policymaking in the latter stages of an emergency,” educating those exposed and creating pressure for resource allocation to relieve the suffering; but such coverage is “limited, random, and unreliable,” and so inaccurate and superficial that it has “in some cases encouraged the wrong response to a crisis.”⁵⁰

Politicization of disaster relief is common if not universal. Disaster aid generally tends to go to political allies and those already receiving other forms of government assistance.⁵¹ Even within countries, “governments in disaster situations have often made decisions not on the basis of the interests of disaster victims but rather in light of perceived political imperatives,” such as by steering relief to one favored ethnic group rather than another.⁵² The United States government is not immune to this kind of behavior, as “the State Department has tried to use disaster assistance – in fact all of USAID’s budget – to advance immediate U.S. foreign policy goals, sometimes to the detriment of long-term interests;”⁵³ for example, it has in the past due to ideological differences refused to offer disaster relief to Cuba during and after a severe hurricane.⁵⁴ Even non-altruistic economic motives may play a role here: “Canadians or Argentineans rich in grain may profit when the droughts and floods occurring elsewhere help to raise world prices;”⁵⁵ and a lot of disaster relief “is merely the export of surplus commodities, regardless of their utility.”⁵⁶ Politics, along with pride and a sense of the limited effectiveness of foreign relief also affects who will accept foreign disaster assistance: for example, after the Guatemala City earthquake of 1976, Guatemala refused to accept disaster aid from Britain because the two were in dispute over Belize.⁵⁷

A special set of complexities arises when the military is involved in providing disaster relief. In most natural disasters, the government military plays a key role because the military can send self-sufficient units to the field quickly and has good communications and access to transport and heavy machinery.⁵⁸ Even though the military has always been heavily involved in natural disaster relief,⁵⁹ with the end of the Cold War it has been uncomfortably ordered more frequently and more dangerously to help in this area and to perform side-by-side

with groups composed of many of its most vocal critics – humanitarian relief organizations.⁶⁰ On the international level, it should be noted that only the United States, United Kingdom, France, Canada, Germany, and Russia have the long-range military airlift capability required to deliver large quantities of foreign humanitarian aid.⁶¹ In many places, “military forces are the instrument of first, rather than last, resort to mitigate the effects of disasters.⁶² Because after disasters there is often looting of relief supplies before they get to their designated destination, such security forces seem essential.⁶³

But while even the International Federation of Red Cross and Red Crescent Societies admit that “many look enviously at the resource base, discipline, and ‘can-do’ mentality of professional armies” in the disaster context, the same organization points out that adherence to the tradition of neutrality, impartiality, and independence necessarily must mean that international humanitarian assistance “is apolitical and, by definition, excludes the use of military force,” voicing its strong concern about the blurring of humanitarian/political-military lines:⁶⁴

The trend has been for humanitarian agencies to become politicized and for military elements to enter the humanitarian arena. The latter has been facilitated by the tendency of governments to exploit humanitarian actions as substitutes for policy and political action. This has been a mutually-reinforcing error; humanitarians feel obliged to act when the politico-military establishment fails to do so, and the military then become involved in humanitarian activity to protect the compromised, and thus vulnerable, aid workers. Neither group has been served by the exchange.

The mode of military operation during these catastrophes may not always be the most appropriate in this regard: “army units have been known to move into a disaster area like an invading army and to treat survivors like prisoners of war, ordering them here and there;” and in some cases these units have organized orderly compact tent camps, which have resulted in people being far from their domestic animals and the homes they want to rebuild, in the rapid spread of disease, and in feelings of helplessness and passivity among the victims.⁶⁵ The military themselves, rarely enthusiastic to begin with about participating in humanitarian aid, note the absence of tangible objectives, their lack of expertise in rehabilitation, and their fear of “mission creep” in dealing with disaster relief.⁶⁶ Thus despite the logical complementarity between neutral humanitarian responses to complex emergencies and political-military peacekeeping operations,⁶⁷ in practice there can be considerable friction between the two.

SECURITY IMPACT

In today's global system where people feel disconnected and isolated from violent forces of nature, cataclysmic natural disasters have the potential either to reinforce or to shake up the prevailing status quo. The notion of security employed here is "the pursuit of psychological and physical safety ... to prevent direct threats ... from endangering the survival of these regimes, their citizenry, or their ways of life."⁶⁸ Part of any meaningful notion of security is the idea that there is a social contract between the ruler and the ruled, in which the citizenry expects protection from the state in return for loyalty and taxes: in the context of natural disasters, this means that there is a clear expansion of the security agenda⁶⁹ to encompass disaster victims' expectations of state responses to their predicament. The stability-oriented definition presented here clearly encompasses not just the protection of human life and the maintenance of the prevailing lifestyle, but also the continuation of the government in power. While natural disasters clearly have the potential to kill people and substantially degrade the way of life, questions arise about the possibility that they may simultaneously increase support for government regimes and promotion of intergovernmental cooperation.

In this regard, two complementary hypotheses emerge claiming in different ways a uniform "silver lining" to the "dark cloud" of security disruption from natural disasters:

- (1) Natural disasters tend to strengthen national governmental stability by increasing domestic unity as everyone bands together in the face of common destruction; and
- (2) Natural disasters tend to strengthen international governmental cooperation by increasing the bonds between donor and recipient countries as recipients feel grateful toward donors and donors feel compassionate toward recipients.

These common presumptions are much too sweeping and cry out for sustained examination. To argue simply that natural disasters are two-edged swords which can promote both security or insecurity is frankly not helpful.

The basis for the first belief is the widespread assumption that "the instinct to avoid the fatalities and the property damage inflicted by extreme geophysical events often transcends the economic and political divisions of mankind in the immediate aftermath of a disaster."⁷⁰ During the emergency phase of a disaster, especially, the claim is that "differences within the community tend to be put aside and conflicts held in abeyance."⁷¹ More specifically, the causes of internal cooperation after a major calamity include the presence of an external threat, the ability to perceive and specify the exact agent of disaster, the general consensus on priorities, the creation of community-wide problems, the focusing of attention on the present, the leveling of social distinctions, and the strengthening of com-

munity identification.⁷² Despite the virtually inevitable crisis in the domestic political system triggered by a natural catastrophe, encompassing a questioning of the government's management capacity to forestall disaster, the joint efforts of local communities and government officials to rebuild after massive destruction that was clearly nobody's direct fault is supposed to foster a major positive political payoff.

The basis for the second belief is the widely held premise that foreign disaster relief may generate extraordinary feelings of goodwill highlighting a donor's national character and moral principled leadership, raising the legitimacy of democracies in the eyes of the public, and improve external diplomatic relations significantly.⁷³ Despite possible perceived power asymmetries between donor and recipient, where if the donor is more powerful disaster aid may reinforce a sense of external dependence and if the recipient is more powerful disaster aid may be viewed as an unnecessary intrusion, the relationship between the two nations is assumed to improve because of the tangible efforts made to help in times of humanitarian emergency and the resulting formation of emotional bonds between the two societies. Even though foreign disaster relief often proves to be inappropriate or ineffective, the positive motivation of the donor is the key to this alliance-building international security payoff, often termed "disaster diplomacy."

CASE EXAMPLES

This study briefly examines in chronological order six major disasters, listed in Figure 1, to get a sense of how they fare with respect to the two security hypotheses. All took place during the last half-decade of the century, between 1995 and 2000, and – despite their differences in scale – appear as a whole to embody the kind of catastrophic consequences representative of this period (by several measures these were the most devastating natural disasters during this time frame). Aside from their magnitude in terms of human and property damage, these cases were purposely selected to encompass a wide range of regions, including sub-Saharan Africa, the Middle East, Central America and the Caribbean, East Asia, and Central Europe, to occur in settings with varied levels of industrial development; and to incorporate all four types of natural disaster. Given the recent occurrence of these cases and the thinness of the evidence, any conclusions about them are inescapably tentative.

Japan Earthquake

In the early morning of 17 January 1995, an earthquake (specifically named The Great Hanshin-Awaji Earthquake) measuring 7.2 on the Richter scale struck the port city of Kobe, Japan. While it lasted only 11 seconds, it had the equivalent impact of over 340 kilotons of TNT, killed over 5,500 people, left over 300,000 homeless, and destroyed over 100,000 houses, with total damage

Figure 1:

NATURAL DISASTER CASE STUDIES

Country	Disaster Type	Date	National/International Security Impact
Japan (Kobe)	Earthquake	January 1995	Criticism of Domestic Government Discouragement of Foreign Disaster Aid
Montserrat	Volcano	July 1995	Criticism of Domestic Government Strained Montserrat-Britain Relations
Poland	Flood	July 1997	Criticism of Domestic Government No Impact on Foreign Relations
Honduras (Mitch)	Hurricane	October 1998	Criticism of Domestic Government Strained Honduras-United States Relations
Turkey	Earthquake	August 1999	Criticism of Domestic Government Improved Greece-Turkey Relations
Mozambique	Flood	February 2000	No Impact on Support for Domestic Regime Improved South Africa-Mozambique Ties

estimated at \$95 billion.⁷⁴ Although Japan has been perhaps the world leader in earthquake research and technology, implementing extensive seismic monitoring systems and strict building codes for both structures and highways, and its citizens regularly practice earthquake drills, the impact was devastating.

Because the response by the Japanese government was both slow and ineffective, the domestic security effect was quite negative. The government was reluctant to swallow its pride and ask for help from its Self-Defense Forces, causing four hours to pass between when the quake hit and officials finally requested aid, while the internal military assistance took a full two days to arrive in force.⁷⁵ Bureaucratic red tape also blocked Japanese relief efforts, as the government bureaucracy appeared to be “more concerned with preservation of its own control, or of the national ‘face,’ than with emergency relief . . . when the crisis struck, the central government was paralyzed, and the city, prefectural, and national police, fire brigades, water authorities, highway authorities, and Self-Defense Forces were shown to be unreliable.”⁷⁶ Although Japanese citizens rarely rail against their government, in this case there were widespread vocal criticisms of the ineptitude of the official authorities, and even the prime minister admitted that the government response had been “confused.”⁷⁷

On the international level, the Japanese government made foreign humanitarian relief all but impossible, forfeiting in the process an opportunity to strengthen global security ties. From the United States President Clinton made an open offer of support within hours of the quake, but Japan refused to utilize 2,000 available beds on a nearby American carrier because it was a nuclear-armed vessel and took two days before allowing an American airlift of blankets to get underway.⁷⁸ The Japanese government similarly turned away or postponed relief assistance from other countries as well: Tokyo bureaucrats in the Foreign Ministry delayed a Swiss rescue team for a day and a half, a French rescue team for three days and a half, a British rescue team for five days, and foreign doctors from several locations for days because they lacked Japanese registration; all in all, of 62 offers of assistance from foreign governments, Japan accepted only 20.⁷⁹

Montserrat Volcano

In July 1995, a volcano (named Soufriere Hills) that had been dormant for over 400 years erupted on the 39-square-mile Caribbean island of Monserrat, permanently changing the lives of the 11,000 people who lived there. Ejecting upward a superheated cloud of ash, steam, and rocks that made two-thirds of the island uninhabitable, the cataclysmic event killed nobody but virtually shut down the country: it directly caused most hotels and restaurants to close, cruise ships to avoid the island, a medical school to move abroad, unemployment to skyrocket, the capital city Plymouth to become a ghost town, and over a third of the inhabitants – about 4,000 people – quickly to pack up and leave the island for the long-term.⁸⁰ Situated over a subduction zone where the North and South American tectonic plates push beneath the Caribbean plate to form the Lesser Antilles islands, Montserrat has continued to experience low level volcanic activity since that time, including a milder eruption in June 1997 that killed over 20 people.

Domestically, inhabitants of Montserrat became quite disgruntled with their own government. Many on the island blamed the regime for ineptitude and inaction, forcing Chief Minister Bertrand Osborne to resign after only nine months in office in the years following the eruption, due in part to dissatisfaction with his ability to obtain disaster relief from Britain.⁸¹ It is generally accepted that the Montserrat government “woefully mishandled” disaster relief from the start, with no general announcement of what the remaining inhabitants should do in the event of an emergency evacuation and with no significant construction of temporary housing.⁸² The volcano has now stimulated a broader and quite unsettling debate among those in Montserrat about constitutional and citizenship rights, as they are legal citizens neither of Britain nor of non-independent Montserrat.⁸³

On the international level, the volcanic eruption has served to introduce and amplify major strains between Montserrat and its colonial ruler, the United

Kingdom. Thanks to this natural disaster, “Montserrat now has the most aid-dependent economy in the world, with \$60 million in donations from Britain” for the less than 4,000 inhabitants between 1995 and 1997.⁸⁴ The Montserrat government has criticized the British government for offering inhabitants financial incentives (modest relocation allotments) to leave the island but none to stay, and the British Secretary of International Development complained that Montserrat’s residents were unrealistic in their demands and “soon would be seeking a ‘golden elephant.’”⁸⁵ In addition, with more than 3,000 former residents of Montserrat having migrated to Antigua, representing almost five percent of the population of this 30-mile-away island, Antigua’s government has felt frustrated and strained to the limit in its ability to provide housing, education, medical treatment, jobs, and social services for its own people, angry at Britain for not providing it with more refugee assistance.⁸⁶

Poland Flood

Beginning on 5 July 1997, two-week-long torrential rain due to an abnormal weather system caused the Oder, Vistula, Niesse, and Morava Rivers to overflow their banks, triggering the worst flood in a century in Poland. Many European rivers are highly susceptible to flooding because their banks have been reinforced with dikes and canal-like walls, “turning them into funnels that prevent high waters from dissipating naturally.”⁸⁷ While Germany’s eastern state of Brandenburg was able to protect itself from significant damage due to massive and speedy mobilization by the German government, and the Czech government also reacted quickly, Poland did not have the resources to do so and was overwhelmed. Afterwards the damage was staggering: Poland suffered more than any other country in the region, with 1,360 towns, 45,000 buildings, and 5,000 kilometers of roads and railways flooded; 55 people killed and tens of thousands destitute; and damage estimates estimated at \$3 billion.⁸⁸

The domestic criticism of the Polish government after the deluge was quite severe. When Polish Prime Minister Włodzimierz Cimoszewicz announced early on that the country had no reserve funds for disaster aid and would not declare a state of emergency, villagers revolted and refused to leave their homes or abandon the dikes protecting their property as government engineers arrived to blast holes in the dikes to ease the rush of the swollen rivers; this turmoil forced Cimoszewicz to reverse his decision and belatedly deploy hundreds of army troops in a relief effort.⁸⁹ Few officials in Poland appeared to be capable of explaining how to get the much-publicized government reimbursements of \$1,000 for disaster damage; top officials within Poland’s hardest hit region, including military commanders, were abroad or on vacation when disaster struck; and the catastrophe ended up “laying bare crucial gaps in this fledgling democracy,” with old Communist ways of thinking where people waited for top-down communication still predominating.⁹⁰ Polish citizens specifically blamed the ruling Democratic Left Alliance for being more concerned with an upcoming

parliamentary election campaign and with congratulating itself over Poland's just-announced acceptance into NATO than with saving the country; in the end, the government's loss of this election in September was in large part due to the bungled flood response.⁹¹

Internationally, regional disaster assistance was forthcoming, but it did not seem to stimulate major long-term changes in cross-national security cooperation. Bilateral governmental assistance was impressive, with the Hungarian government sending over water pumps and Germany making \$224,000 initially available to help Polish flood victims and ultimately providing \$7.5 million in official and unofficial disaster aid to Poland and the Czech Republic.⁹² Although the generally amicable relations between donors and recipients did not transform significantly, at the very least as a result of the disaster Germany and Poland began very preliminary discussions of a joint approach to the European Union for financial help to modernize dikes along the Oder River.⁹³

Honduras Hurricane

At the end of October 1998, Hurricane Mitch – reportedly the most destructive storm in the Western Hemisphere in 200 years – ripped through Central America and unleashed 290 kilometer-per-hour winds and a year's rainfall in just two days. In Honduras, where the impact was by far the worst, the storm killed 6,000 people in landslides and floods (out of a total of 10,000 total deaths), made 80,000 homeless, and wrought an estimated \$3.6 billion worth of damage (60 percent of the Honduran annual gross domestic product), including destroying 60 percent of the country's bridges, 25 percent of its schools, and 50 percent of its agricultural productivity.⁹⁴ The toll was staggering by any measure.

Domestically, the Honduran government was incapable of responding to the catastrophe. It did not place the country on alert, spearhead an effort to muster sandbags, plan evacuations, or organize backup power supplies; instead, it simply "hoped the hurricane would go away."⁹⁵ Widespread environmental degradation, particularly deforestation, as well as poverty and population growth made the problems triggered by the storm virtually insuperable in any case. Confusion about government policies reigned, as many thought central government officials would not allow them to rebuild structures close to a swollen river, while local officials said that was acceptable.⁹⁶ Needless to say, the result of these failings was increasing unhappiness by the Honduran people with their own government.⁹⁷

From an international perspective, relations between Honduras and other nations in the Western Hemisphere did not significantly improve as a result of Hurricane Mitch, and strains emerged particularly in relations with the United States. Close to \$100 million in international relief assistance poured in, but it did not even come close to meeting the need.⁹⁸ American soldiers rescued 600

people, and the United States alone initially pledged \$70 million (actually eventually spending \$300 million on immediate relief efforts), including \$24 million for food aid, \$16.3 million for water and sanitation, and \$30 million for aircraft and other services from the Defense Department; yet the United States received widespread criticism from Honduras for doing “far too little” to help out with the disaster.⁹⁹ While President Clinton also granted as a result of the storm temporary refuge for 18 months to about 150,000 Hondurans and Nicaraguans illegally living in the United States, Honduran leaders viewed this move only as a temporary safety valve “falling far short” in dealing with the larger tensions between the two countries dealing with illegal migrants. And Salvadorans and Guatemalans objected to unfair treatment because they did not receive this offer.¹⁰⁰

Turkey Earthquake

At 3:01 AM on 17 August 1999, one of the deadliest earthquakes of the century hit northern Turkey, flattening the Turkish city of Izmit. Measuring 7.4 on the Richter scale, the ground moved laterally nearly 10 feet thrust by the energy of 100 megatons of TNT as one of the tectonic plates in the North Anatolian Fault shifted. In the aftermath at least 18,000 people lost their lives and 1.5 million people were at least temporarily homeless.¹⁰¹

Domestically, the efforts of the Turkish government to manage this crisis failed miserably. Its rescue efforts “collapsed into chaos and disappeared in hundred-kilometer traffic jams,” with communication so disrupted that at one point Prime Minister Bulent Ecevit used a televised press briefing to convey instructions back to officials in Ankara.¹⁰² The catastrophe was compounded by the fact that, although Turkish building codes incorporated stiff earthquake-resistant standards, it became clear quickly that corrupt Turkish contractors not subject to stringent governmental inspections cheated quite a bit. It is not surprising that after the quake, the predominant sentiment in Turkey was outrage, as during the disaster Turkish government officials “utterly failed to convey the sense that they care much for their people”: anger at the government (which had no dedicated rescue team) for not reacting swiftly enough to rescue and help survivors, anger at the army for not mobilizing into action sooner, and anger at the country’s bureaucrats for allowing poorly constructed buildings to have been erected in the first place.¹⁰³

The scope of the international response to this disaster was virtually unprecedented, with a distinctly positive payoff. The United States dispatched a crack search-and-rescue team, along with three Navy hospital ships and plane-loads of supplies; and more than 30 other countries helped out.¹⁰⁴ But most notable and effective was the sizable relief effort from Turkey’s historic enemy Greece, which within 12 hours of the quake sent three planeloads of relief supplies to Turkey and continued to provide rescue workers, doctors, field kitchens,

medical supplies, and fire fighting aircraft throughout the crisis.¹⁰⁵ Beyond the Greek government's efforts, ordinary Greek citizens jammed the phone lines to the Turkish Embassy in Athens soon after the disaster to express sympathy for the quake victims and ask what they could do to help out, in the end donating massive quantities of blood for the Turkish victims and even offering their vacation homes for those left homeless and orphaned.¹⁰⁶ Afterwards an unusual opportunity emerged for reciprocal generosity: later in September when Greece experienced a smaller earthquake measuring 5.9 on the Richter scale killing over 100 people and leaving over 100,000 homeless, the first foreign rescue team to reach Athens was Turkish, accompanied by heartfelt expressions of sympathy from the Turkish government.¹⁰⁷ Dubbed by some "earthquake diplomacy," this bilateral cooperation in disaster management (which piggybacked on top of a thawing process between the two states already in process) reaped tangible benefits: shortly after the Athens quake, Greece dropped its opposition to Turkey's entry into the European Union; and in January 2000, during the first official visit by a Greek foreign minister to Turkey in 38 years, the Greek and Turkish governments signed a series joint agreements combating organized crime and promoting tourism "as a modest if symbolic step forward."¹⁰⁸

Mozambique Flood

In February 2000, the worst flooding in 50 years began in Mozambique, triggered by over a month of extraordinarily heavy rain and exacerbated by Cyclone Eline. The waters of the Save, Incomati, Umbuluzi, Maputo, and Limpopo Rivers exhibited an especially dramatic and unexpected rise in late February, submerging much of the country and washing out many roads and bridges. The results included over 400 deaths and the emigration of almost a million refugees fleeing the disaster, with reconstruction costs estimated at \$250 million.¹⁰⁹

The government of Mozambique was, perhaps quite understandably, in no position to manage the natural disaster on its own. Despite having been before the flood one of the world's fastest growing economies, Mozambique is extremely poor, and it has no disaster management unit, an army of only 6,000 inadequately paid and trained soldiers, and just a handful of helicopters lacking parts, maintenance, and fuel.¹¹⁰ Despite the confused and ineffective government response to the flood, however, the Mozambique citizenry expressed no disappointment about these efforts because they expected little help from this source, instead counting on massive international aid. The calamity at the very least stimulated the government of Mozambique (and that of other southern African nations) to begin to put into place disaster preparedness mechanisms.¹¹¹

While foreign disaster relief emanating from within the region was a god-send, relief efforts from outside of the region proved to be generally belated and inadequate. The most effective disaster relief came from neighboring South

Africa, despite experiencing its own related flooding problems: the country quickly supplied five helicopters and two light aircraft to work in the flood zones, and as early as 2 March the South African Defense Minister visited the areas affected by the disaster to promise even more assistance.¹¹² After years of being Mozambique's "worst enemy" due to the former apartheid regime's financing of right-wing insurgents to topple Mozambique's then socialist regime, the South African government's dispatch of 75 soldiers to the affected area accelerated the normalization of relations between the two countries (South African relations with Mozambique were already on the mend after Nelson Mandela assumed power) and made the South Africans true heroes in Mozambique because of their successful rescue of nearly 15,000 flood victims, with the white soldiers and the black guerrilla fighters they once hunted working side-by-side in the relief operations.¹¹³ In sharp contrast, Mozambique President Joaquim Chissano stated that the flood aid from outside the region, arriving "very slowly and in small quantities," was not sufficient to prevent deaths from starvation, drowning, and cholera and malaria epidemics; and there is widespread "simmering resentment" felt by many government officials and relief workers who claim that "the powerful nations of the world often fail to act as urgently here as elsewhere."¹¹⁴

General Case Patterns

From this admittedly small body of case evidence some tentative patterns emerge about the security impact of recent natural disasters. It is clear from the outset that neither of the commonly-held beliefs cited earlier receive much substantiation: in most of the cases neither the national governmental stability in the affected country nor the international governmental cooperation between donor and recipient countries increased. However, significant clues emerge to help qualify these generalizations.

The domestic security impact of all of the disasters except for the Mozambique flood involved an increase in domestic criticism of, and dissatisfaction with, the governments of the affected countries. In none of the cases did the citizenry feel the government acted swiftly and effectively to manage the catastrophe, and the only difference in the Mozambique case is that there never was an expectation here of such a response in the first place. Increasingly the roots of the political legitimacy of government regimes around the world has broadened to include firm demands pertaining to disaster management. From the most prepared government of Japan to the least prepared government of Mozambique, bureaucratic bungling and red tape was a culprit in the inadequate domestic reaction to calamity. Whereas in many societies the people in affected areas pulled together to help each other even when the government is paralyzed, in some cases – such as in Turkey and even more so around the same time in the Orissa cyclone in India in October 1999 where 10,000 people died¹¹⁵ – there is a widespread sense that the elite do not really care much about those affected by

natural disasters. Existing grievances can be exacerbated when governments attempt initially to underplay the severity of the disaster and use propaganda to attempt to smooth things over, as in Poland and a bit later in the flooding in China in summer 1998 where 4,000 people lost their lives.¹¹⁶ Overall, the evidence highlights some warning signs about when disasters may particularly foster government instability: first, overblown pride in technology's ability to control disasters as in Japan; second, careless enforcement of construction codes as in Turkey; third, inattention to environmental degradation as in Honduras; and finally, supercilious initial disaster responses from government elite as in Poland and Turkey (particularly troublesome when such governments are perceived as having ample crisis management resources).

Turning to the international security impact, while two of the cases – Turkey and Mozambique – exhibited dramatic improvements in relations between donor and recipient countries, in the remaining four cases no such benefits occurred. Indeed, in two cases – Montserrat and Honduras – key donor nations (the United Kingdom and the United States) ended up in worse positions with renewed strains in their relationships with recipients of disaster aid and with out-migration escalating regional tensions. It is interesting to note that in all the cases bilateral government-to-government disaster relief appeared to play a more central role than that from international and non-governmental organizations. In the cases involving the least developed countries (Montserrat, Honduras, and Mozambique), receiving foreign disaster aid ended up reinforcing a sense of external dependence, even when bilateral foreign assistance proved wonderfully helpful as it did in Mozambique. Japan's rejection or postponement of disaster relief from abroad represents a not uncommon roadblock to the emergence of international cooperation: looking beyond the cases studied here during the same period scrutinized, Taiwan flatly refused aid from China – due to distrust of the Beijing government – after an earthquake measuring 7.6 on the Richter scale hit in September 1999 and killed 2,400 Taiwanese;¹¹⁷ and the left-leaning Venezuelan government would not allow American military forces to enter to provide disaster relief after the devastating flood which killed 30,000 people in January 2000.¹¹⁸ The use of foreign military troops as agents of disaster relief did not increase tensions in any of the included cases. Overall, the evidence suggests that some key stimulants of disasters improving cooperation between donor and recipient appear to be first, previous movement toward thawing of bilateral hostilities; second, pivotal, appropriate, and effective disaster assistance; and third, geographical proximity, especially where both donor and recipient were vulnerable to the same kind of natural catastrophe. More generally, when foreign disaster relief efforts work hand-in-hand with local initiatives, and when they are divorced from blatant advancement of the donor's geostrategic interests, the international cooperation possibilities may very well be the most promising.¹¹⁹

SECURITY IMPLICATIONS

This study's analysis suggests a few broad and preliminary implications for security policy, with the underlying goal being "to return stability and normalcy to society in crisis"¹²⁰ after disasters in such a way that enhances both humanitarian and security values. First and foremost, governments should, in addition to humanitarian issues, pay much more explicit attention to the internal and external security impact of natural catastrophes. Rather than rigid "either-or" thinking posing idealist humanitarianism and realist security enhancement as incompatible opposites, we should strive to integrate both sets of concerns. Domestically, awareness of the kinds of criticism and instability likely to be generated by these catastrophes can lead to better preparation, clearer communication during the crisis, and perhaps more urgent motivation out of regime self-interest rather than simply altruism to send speedy and appropriate relief to those affected. Internationally, awareness of both the opportunities and pitfalls of foreign disaster aid can help governments to fine tune when such relief should be provided or accepted, what form it should take, and what resulting changes in foreign relations ought to be promoted. Perhaps most importantly, governments should attempt to refine their understanding of the conditions when internal support and external cooperation can be most enhanced in the aftermath of natural disasters. Failure to deal with natural disasters and their security impacts can lead to truly dire consequences, as there have even been circumstances where the collapse of governments were attributed to this oversight.

Second, efforts should occur within national defense ministries to integrate explicitly disaster relief operations into the broader security framework. Efforts so far to address this issue have been very preliminary, even within the United States: for example, considering initiatives by the American intelligence community in the 1990s, there is now an annual National Intelligence Estimate for Humanitarian Emergencies; and the Defense Intelligence Agency now has as one of its emphases Environmental Defense Intelligence, where critical information uniquely relevant to the planning and implementation of disaster relief – including physical, environmental, and sociocultural elements – are part of intelligence products dealing with complex humanitarian emergencies.¹²¹

Third, the involvement of government military forces in disaster relief efforts needs careful reexamination in terms of its costs and benefits. While the military is frequently the most effective tool for providing such assistance, and none of the cases studied revealed security-related problems in this area, policy makers need to take more into account the sensitivity of both recipient country governments and non-governmental humanitarian relief organizations as well as the long-term political implications of such military use. In particular, providing military-sponsored disaster relief within a country where there is repression of insurgency activities in particular regions, or pre-existing tensions with non-governmental organizations sympathetic to the insurgent groups, can pose spe-

cial problems. From a foreign policy standpoint, the presence of such military forces signifies a very different kind of commitment than disaster aid provided without them, and counterproductive expectations – both hopeful and apprehensive – can grow that they will serve purposes wider than their original mission.

Most broadly, there needs to be a new security calculus for donors providing foreign disaster relief. This calculus need to integrate the varied opportunities and restraints clearly presented by the geopolitical and ecopolitical perspectives when applied to complex humanitarian emergencies. It makes no sense for such aid to be a function of media publicity or public pressure, as the uneven coverage of natural disasters and the haphazard nature of what grabs public concern make such a basis for determining responses to complex humanitarian emergencies more than a bit ludicrous; in any case, “public sentiment in foreign countries may simply grow numb from the continual bombardment of information about suffering people in foreign lands.”¹²² Instead, to the extent possible with knowledge in hand, the paramount considerations ought to include the severity of disaster-initiated damage to people and property, including the extent to which the catastrophe significantly threatens the local or regional status quo; the opportunity to provide timely and effective relief not already emanating from local groups, immediate neighbors and regional sources; the willingness of those affected to accept outside aid and their ability to utilize it efficiently to recover; and the avoidance of security complications where recipients feel disaster aid is insufficient, insulting, or instability-enhancing.

In an anarchic international system full of diverse values, how well nations cope with natural disasters can be a measure of global civil society. While these irresistible catastrophes will continue to occur, making victims and whole societies feel helpless, the dysfunctional and incoherent pattern of government responses to these tragedies need not continue. Without violating national interests, it is certainly possible to relieve human suffering while at the same time working to increase internal stability and external cooperation. Ironically, severe disruptions known as acts of God, reminding us of the overwhelming power of nature, may indeed be the only impetus sufficient to push us in this noble direction.

Endnotes

1. David Alexander, *Natural Disasters* (London: UCL Press, 1993), p. 1.
2. Janet N. Abramovitz, "Unnatural Disasters," *World Watch* 12 (July/August 1999), p. 31.
3. Alexander, *Natural Disasters*, p. 1.
4. Ian Burton, Robert W. Kates, and Gilbert F. White, *The Environment as Hazard*, 2nd ed. (New York: Guilford Press, 1993), p. 25.
5. Anders Wijkman and Lloyd Timberlake, *Natural Disasters: Acts of God or Acts of Man?* (Philadelphia, PA: New Society Publishers, 1988), p. 112.
6. Lloyd Pettiford, "Towards a Redefinition of Security in Central America: The Case of Natural Disasters," *Disasters* 19 (1995), p. 154.
7. Anthony Oliver-Smith, *Natural Disasters and Cultural Responses* (Williamsburg, VA: College of William and Mary, 1997), p. 3.
8. Geoffrey Parker, *Geopolitics: Past, Present and Future* (London: Pinter, 1998); and Harold and Margaret Sprout, *Toward a Politics of the Planet Earth* (New York: D. Van Nostrand Company, 1971).
9. Dennis Pirages, *The New Context for International Relations: Global Ecopolitics* (North Scituate, MA: Duxbury Press, 1978); and Ken Conca and Geoffrey D. Dabelko, *Green Planet Blues*, 2nd ed. (Boulder, CO: Westview, 1998).
10. Barry Buzan, *People, States & Fear*, 2nd ed. (Boulder, CO: Lynn Rienner, 1991); and Robert Mandel, *The Changing Face of National Security: A Conceptual Analysis* (Westport, CT: Greenwood, 1994).
11. Andrew S. Natsios, *U. S. Foreign Policy and the Four Horsemen of the Apocalypse: Humanitarian Relief in Complex Emergencies* (Westport, CT: Praeger, 1997); and Kimberly A. Maynard, *Healing Communities in Conflict: International Assistance in Complex Emergencies* (New York: Columbia University Press, 1999).
12. G. Ted Constantine, *Intelligence Support to Humanitarian-Disaster Relief Operations* (Washington, DC: Central Intelligence Agency Center for the Study of Intelligence, December 1995), pp. 3, 4.
13. See, for example, Thomas Homer-Dixon, *Environment, Scarcity, and Violence* (Princeton, NJ: Princeton University Press, 1999); and Robert Mandel, *Conflict Over the World's Resources* (Westport, CT: Greenwood, 1988).
14. See, for example, discussion of the yardsticks used by the Natural Hazard Research Group in Paul Sussman, Phil O'Keefe, and Ben Wisner, "Global Disasters, a Radical Interpretation," in K. Hewitt, ed., *Interpretations of Calamity* (Boston, MA: Allen & Unwin, 1983).
15. Oliver-Smith, *Natural Disasters and Cultural Responses*, p. 3.
16. Wijkman and Timberlake, *Natural Disasters*, pp. 53, 82; International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1993* (Norwell, MA: Kluwer Academic Publishers, 1993), p. 66; and Piers Blaikie, Terry Cannon, Ian Davis, and Ben Wisner, *At Risk: Natural Hazards, People's Vulnerability, and Disasters* (New York: Routledge, 1994), p. 124.
17. Blaikie, Cannon, Davis, and Wisner, *At Risk*, p. 149; and International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1993*, p. 70.
18. Blaikie, Cannon, Davis, and Wisner, *At Risk*, p. 169; and International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1993*, p. 84.
19. International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1993*, pp. 89-92.
20. David Alexander, "Natural Disasters: A Framework for Research and Teaching," *Disasters* 15 (1991), p. 210.

21. Constantine, *Intelligence Support to Humanitarian-Disaster Relief Operations*, p. 3; and Morris Davis and Steven Thomas Seitz, "Disasters and Governments." *Journal of Conflict Resolution* 26 (September 1982), pp. 547-68.
22. Blaikie, Cannon, Davis, and Wisner, *At Risk*, pp. 30-43.
23. Alexander, *Natural Disasters*, p. 498.
24. National Intelligence Council, *Global Humanitarian Emergencies: Trends and Projections, 1999-2000* (Washington, DC: U.S. Government Printing Office, August 1999), p. vii.
25. Rosario Daza, "Leading a Revolution in Disaster Relief," *Sunday Oregonian*, 2 July 2000, p. A11.
26. Wijkman and Timberlake, *Natural Disasters*, p. 11; and Gilbert F. White, "Natural Hazards Research: Concepts, Methods, and Policy Implications," in Gilbert F. White, ed., *Natural Hazards: Local, National, Global* (New York: Oxford University Press, 1974), pp. 10-13.
27. Charles H. V. Ebert, "Consequences of Disasters for Developing Nations," in Robert H. Maybury, ed., *Violent Forces of Nature* (Mount Airy, MD: Lomond Publications, 1986), p. 287.
28. *Acts of Nature, Acts of Man: The Global Response to Natural Disasters* (New York: United Nations Association Policy Studies Panel on International Disaster Assistance, 1977), p. 18.
29. Alexander, *Natural Disasters*, p. 496.
30. Office of Technology Assessment, *U.S. Disaster Assistance to Developing Countries: Lessons Applicable to U.S. Domestic Disaster Programs* (Washington, DC: US Government Printing Office, 1983), p. 9.
31. Burton, Kates, and White, *The Environment as Hazard*, pp. 209-10.
32. Maynard, *Healing Communities in Conflict*, pp. 146, 198.
33. National Intelligence Council, *Global Humanitarian Emergencies*, p. vii.
34. Stephen Green, *International Disaster Relief* (New York: McGraw-Hill, 1977), p. 40.
35. Burton, Kates, and White, *The Environment as Hazard*, pp. 189-95.
36. Wijkman and Timberlake, *Natural Disasters*, p. 112; and Frederick C. Cuny, *Disasters and Development* (New York: Oxford University Press, 1983), p. 86.
37. International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1997* (New York: Oxford University Press, 1997), p. 23.
38. Wijkman and Timberlake, *Natural Disasters*, p. 108.
39. Green, *International Disaster Relief*, p. 2.
40. Burton, Kates, and White, *The Environment as Hazard*, pp. 212-13.
41. Cuny, *Disasters and Development*, p. 90.
42. Alexander, *Natural Disasters*, p. 502.
43. Wijkman and Timberlake, *Natural Disasters*, p. 108.
44. Alexander, *Natural Disasters*, p. 502.
45. Cuny, *Disasters and Development*, p. 90.
46. Alexander, *Natural Disasters*, p. 499.
47. *Ibid.*, p. 589.
48. Wijkman and Timberlake, *Natural Disasters*, p. 113.
49. Burton, Kates, and White, *The Environment as Hazard*, pp. 189-95.
50. Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, pp. 125, 138-39.
51. Wijkman and Timberlake, *Natural Disasters*, p. 112.
52. Green, *International Disaster Relief*, p. 12.
53. Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, p. 45.

54. Burton, Kates, and White, *The Environment as Hazard*, p. 209.
55. *Ibid.*, p. 187.
56. Wijkman and Timberlake, *Natural Disasters*, p. 112; and Alexander, *Natural Disasters*, p. 500.
57. Wijkman and Timberlake, *Natural Disasters*, p. 114.
58. *Ibid.*, p. 111.
59. Constantine, *Intelligence Support to Humanitarian-Disaster Relief Operations*, p. 4.
60. Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, p. 105.
61. National Intelligence Council, *Global Humanitarian Emergencies*, p. viii.
62. Constantine, *Intelligence Support to Humanitarian-Disaster Relief Operations*, p. 4.
63. Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, pp. 105-06.
64. International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1997*, pp. 23-26.
65. Wijkman and Timberlake, *Natural Disasters*, p. 111.
66. Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, pp. 112-14.
67. Michael D. McGinnis, "Policy Substitutability in Complex Humanitarian Emergencies," *Journal of Conflict Resolution* 44 (February 2000), p. 84.
68. Robert Mandel, *The Changing Face of National Security: A Conceptual Analysis* (Westport, CT: Greenwood, 1994), p. 21.
69. See Barry Buzan and Ole Waever, *Security: A New Framework for Analysis* (Boulder, CO: Lynne Rienner, 1998) for elaboration on the politics of the broadening security agenda.
70. Burton, Kates, and White, *The Environment as Hazard*, p. 187.
71. Alexander, *Natural Disasters*, p. 558.
72. E.L. Quarantelli and Russell R. Dynes, "Community Conflict: Its Absence and Presence in Natural Disasters," *Mass Emergencies* 1 (1976), pp. 141-44.
73. Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, p. 24.
74. International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1996* (New York: Oxford University Press, 1996), p. 65; and Sharon Begley and Donna Foote, "Lessons of Kobe," *Newsweek* 125, 30 January 1995, pp. 24-30.
75. Steven Butler, "Killer Quake," *US News & World Report* 118, 30 January 1995, pp. 38-45; and "What the Quake Shows About Japan," *Washington Post*, 2 February 1995, p. A27.
76. Gavan McCormack, *The Emptiness of Japanese Affluence* (Armonk, NY: M. E. Sharpe, 1996), pp. 10-12.
77. Begley and Foote, "Lessons of Kobe," pp. 24-30.
78. Butler, "Killer Quake," pp. 38-45; and "What the Quake Shows About Japan," p. A27.
79. Peter Hartcher, "After-Shock of Anger with a Bungling Bureaucracy," *Australian Financial Review*, 30 January 1995, p. 13; and McCormack, *The Emptiness of Japanese Affluence*, p. 10.
80. A. R. Williams, "Under the Volcano Montserrat," *National Geographic* 182 (July 1997), pp. 58-59.
81. Nomi Morris, "Paradise Lost: A Volcano Ravages a Caribbean Isle," *Maclean's* 110, 1 September 1997, pp. 32-34.
82. Tammerlin Drummond, "Under the Volcano: A Paradise is Lost as Montserrat's People Abandon Their Island," *Time* 150, 1 September 1997, pp. 42-44.

83. Tracey Skelton, "Political Uncertainties and Natural Disasters: Montserratian Identity and Colonial Status," *Interventions* 2 (2000), pp. 108-09.
84. Brook Larmer, "Another Paradise Lost: After 400 Years, A Volcano Reawakens," *Newsweek* 130, 18 August 1997, pp. 43-46.
85. Serge F. Kovaleski, "Antigua Bears Brunt of Evacuees Fleeing Montserrat Volcano; Britain is Accused of Shirking Responsibility to Refugees," *Washington Post*, 27 August 1997, p. A21.
86. Ibid.
87. Alan Cowell, "With Nearly 100 Dead, Floods Keep Raging in Central Europe," *New York Times*, 21 July 1997, p. A6.
88. International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1998* (New York: Oxford University Press, 1998), pp. 123-26; and Christine Spolar, "Poles Assail Leaders' Slow Response to Summer's Catastrophic Floods," *Washington Post*, 27 July 1997, p. A26.
89. Christine Spolar, "Massive Flooding Hits Poland, Czech Republic; Rising Waters Kill Scores, Cripple Industry, While Thousands are Forced to Evacuate their Homes," *Washington Post*, 19 July 1997, p. A15.
90. Christine Spolar, "Lots of Water But None to Drink; Floods in Poland Swamp Pumping Station for City of 400,000," *Washington Post*, 22 July 1997, p. A18; and Spolar, "Poles Assail Leaders' Slow Response to Summer's Catastrophic Floods," p. A26.
91. Danylo Hawaleshka, "A Deluge of Anger: Central Europe Suffers the Worst Floods in a Century," *Maclean's* 110, 11 August 1997, p. 22; and International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1998*, p. 124.
92. "Central European Floods Threaten a Polish City," *New York Times*, 13 July 1997, p. 4; Spolar, "Massive Flooding Hits Poland, Czech Republic," p. A15; and International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1998*, p. 126.
93. Hawaleshka, "A Deluge of Anger," p. 22.
94. International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1999* (Geneva, Switzerland: International Federation of Red Cross and Red Crescent Societies, 1999), pp. 42, 45-46.
95. Alexander Cockburn, Jeffrey St. Clair, and Ken Silverstein, "The Politics of 'Natural' Disaster: Who Made Mitch So Bad?," *International Journal of Health Services* 29 (1999), p. 461.
96. International Federation of Red Cross and Red Crescent Societies, *World Disasters Report 1999*, p. 51.
97. Alan Zarembo and Brook Larmer, "Fields of Death," *Newsweek* 132, 16 November 1998, p. 50.
98. Lorraine Orlandi, Fiona Ortiz, and Melanie Wetzel, "Murderous Mitch," *Time* 152, 16 November 1998, p. 66.
99. "Helping the Hurricane Victims," *New York Times*, 6 November 1998, p. A32; and Zarembo and Larmer, "Fields of Death," p. 50.
100. William Branigin and Pamela Constable, "U.S. Lets Central American Stay After Floods; Hondurans, Nicaraguans Offered More Relief than Guatemalans, Salvadorans," *Washington Post*, 31 December 1998, p. A4.
101. "The Big One," *Newsweek* 134, 30 August 1999, p. 20.
102. Ibid.
103. "Counting the Cost in Turkey," *Economist* 352, 28 August 1999, p. 37; and "Lessons from Turkey," *Economist* 352, 28 August 1999, p. 16.
104. "The Big One," p. 20.
105. Stephen Kinzer, "A Natural Disaster Helps Draw Two Enemies Closer," *New York Times*, 22 August 1999, p. 3; and Jeffrey Smith, "Greece Lends a Hand to a Rival; Quake Response Lifts

- Hopes for Improved Greek-Turkish Relations,” *Washington Post*, 24 August 1999, p. A13.
106. Stephen Kinzer, “A Natural Disaster Helps Draw Two Enemies Closer,” p. 3.
 107. “Earthquake Brothers: Athens Takes a Hit, and Turkey Repays a Kindness,” *Newsweek International*, 20 September 1999, p. 33.
 108. Thomas Omestad, Chitra Ragavan, Joseph P. Shapiro, Sheila Kaplan, and Major Garrett, “Quakes Promote Harmony,” *US News & World Report* 127, 20 September 1999, p. 16; and Amberin Zaman, “New Agreements Enhance Greek-Turkey Ties,” *Washington Post*, 21 January 2000, p. A21.
 109. “Office of U. S. Foreign Disaster Assistance Flood Update,” *Africa News Service* (8 March 2000), p. 1; and Charlie Cobb, “US Officials Say Mozambique Flood Response Slowed by Miscalculation,” *Africa News Service* (19 March 2000), p. 1.
 110. Rachel L. Swarns, “New Flood Aid to Mozambique, and Some Complaints,” *New York Times*, 5 March 2000, p. 8.
 111. Cobb, “US Officials Say Mozambique Flood Response Slowed by Miscalculation,” p. 1.
 112. “South African Defense Minister Visits Flood Zones in Mozambique,” *Xinhua News Agency*, 2 March 2000, p. 1.
 113. Jon Jeter, “Flooding in Mozambique Washes Away Old Hatreds; Once Bitter Foes, South Africans Become Unlikely Heroes,” *Washington Post*, 12 March 2000, p. A23.
 114. Jon Jeter, “Loss Outpaces Aid, Mozambique Says; Flood Death Toll May be as High as 1,000,” *Washington Post*, 2 March 2000, p. A13; and Swarns, “New Flood Aid to Mozambique,” p. 8.
 115. Maseeh Rahman and Meenakshi Ganguly, “A Deafening Silence: The Sorry Aftermath of the Orissa Cyclone Shows How the Land of Gandhi has Come to Mistreat its Poorest,” *Time International*, 155, 14 February 2000, p. 18.
 116. Susan V. Lawrence, “Silver Lining,” *Far Eastern Economic Review* 161, 3 September 1998, pp. 18-19.
 117. Michael Laris, “Taiwan Declines Offer of Quake Aid from China,” *Washington Post*, 24 September 1999, p. A26.
 118. Bradley Graham, “Venezuelan Stance Halts Pentagon’s Flood Relief,” *Washington Post*, 15 January 2000, p. A20.
 119. Maynard, *Healing Communities in Conflict*, p. 213; and Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, p. 171.
 120. Natsios, *U.S. Foreign Policy and the Four Horsemen of the Apocalypse*, p. 140.
 121. Constantine, *Intelligence Support to Humanitarian-Disaster Relief Operations*, pp. 11-12.
 122. Maynard, , p. 196.